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THE DISTRIBUTION OF FATAL RISK IN ONTARIO INDUSTRIES

by

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ABSTRACT

The purpose of this study was to estimate non-radiological risks of occupational fatalities in Ontario industries. The distribution of high-risk occupations was found to vary widely between the different industries for a number of reasons including the fact that insufficient data in some instances resulted in less than desirable reliability. However, in spite of various data limitations, a number of occupations had above average fatal risk rates in several industries, including Material Handlers & Related, N.E.C. (SOC-9319), Welders and Flame Cutters (SOC-8335), Truck Drivers (SOC-9175) and Mechanics & Repairmen, except Electrical (SOC-8589).

The majority of occupations had rates below or close to the industry average; however, between 15% and 30% of the occupations in any given industry had fatal risk rates above the industry average. When the number of workers involved in different occupations was considered, between 18% and 40% of workers were in occupations with above average risk.

Recommendations for future work are also provided.

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Résumé

La présente étude visait à évaluer les risques non radiologiques des accidents de travail mortels dans les industries ontariennes. Il a été constaté que la répartition des emplois à risque élevé variait grandement entre les diverses industries pour de nombreuses raisons, y compris le fait que des données insuffisantes dans certains cas ne permettaient pas de faire une évaluation entièrement fiable. Toutefois, malgré les diverses insuffisances de données, plusieurs emplois ont indiqué des taux de risque d'accident mortel au-dessus de la moyenne, y compris Material Handlers & Related, groupe non classifié ailleurs (SOC-9319), Welders and Flame Cutters (SOC-8335), Truck Drivers (SOC-9175) et Mechanics & Repairmen, except Electrical (SOC-8589).

La plupart des emplois ont indiqué des taux en-dessous de la moyenne de l'industrie ou proches de celle-ci. Toutefois, entre 15 et 30 pour 100 des emplois dans n'importe quelle industrie ont indiqué des taux d'accident mortel au-dessus de la moyenne de l'industrie. Lorsqu'il a été tenu compte du nombre de travailleurs concernés dans des emplois différents, entre 18 et 40 pour 100 des travailleurs occupaient des emplois comportant un risque au-dessus de la moyenne.

La présente étude fournit aussi des recommandations pour des travaux futurs.

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Highlights

A. Percentage of Occupations With Fatal Risk Rates at Least *Twenty, Ten, Five* and *Two* Times the Industry Average (1979-1984)

Industry	(Industry Average Fatal Risk Rate $10^{-6}y^{-1}$)	% at least 20 times the average	% at least 10 times the average	% at least 5 times the average	% at least 2 times the average
Forestry	(543)	2.7	2.7	5.5	9.6
Mining	(364)	3.3	6.0	7.3	10.6
Manufacturing	(48)	3.7	7.1	12.9	21.8
Construction	(169)	5.0	9.2	11.9	14.7
Transportation, Communication & Utilities	(119)	1.5	3.5	5.0	10.4
Trade	(27)	5.6	8.1	13.0	21.4
Community, Business & Personal Service	(12)	3.4	6.4	8.5	14.6
Public Administration	(49)	9.0	12.7	16.4	19.1

B. Percentage of Workers in Occupations with Fatal Risk Rates at Least Twenty, Ten, Five and Two Times the Industry Average (1979-1984).

Industry (Industry Average Fatal Risk Rate $10^{-6}y^{-1}$)	Total Number of Workers in Industry	% at least 20 times the industry average	% at least 10 times the industry average	% at least 5 times the industry average	% at least 2 times the industry average
Forestry (543)	71090	0.3	0.3	0.6	18.7
Mining (364)	200718	0.7	0.8	1.3	2.6
Manufacturing (48)	5856208	2.5	3.9	6.2	20.4
Construction (169)	1247734	0.3	0.5	0.8	1.6
Transportation, Communications & Utilities (119)	1743097	0.1	1.0	3.5	18.1
Trade (27)	3975843	1.5	2.0	4.4	16.4
Community, Business & Personal Service (12)	6831874	0.1	1.0	3.5	9.8
Public Administration (49)	1661621	1.9	3.8	5.4	8.4

C. Occupations with Above Average Fatal Risk Rates* Within Two or More Industries (1979-1984)

SOC	Occupation	Industry	Percentage of Total Workers in Industry	Rate $10^{-6}y^{-1}$	Ratio to Industry Average
7513	Timber Cutters	Forestry	17.1	2108	3.9
		Manufacturing	0.1	1638	33.8
8238	Labourers, Wood Processing Except Pulp & Papermaking	Forestry	0.3	19755	36.4
		Manufacturing	0.2	418	8.6
7713	Other Rock & Soil Drilling	Mining	8.8	406	1.1
		Manufacturing	0.0	17,472**	361.0
7717	Mining & Quarrying: Cutting, Handling & Loading	Mining	13.2	416	1.1
		Manufacturing	0.0	1406	29.0
8529	Other Fabricating & Assembling Metal Products, N.E.C.	Manufacturing	0.6	597	12.3
		Construction	0.1	3980	23.5
8215	Slaughterers, Meat Cutters, Canners, Curers & Packers	Manufacturing	0.8	74	1.5
		Trade	1.0	192	7.0
8334	Metal Working & Machine Operators	Manufacturing	1.4	1139	23.5
		Trade	0.1	2417	87.9
8513	Motor Vehicle Assemblers, N.E.C.	Manufacturing	2.3	181	3.7
		Trade	0.1	1305	47.5
8578	Labourers: Assembling & Repairing Rubber, Plastic & Related Products, N.E.C.	Manufacturing	0.3	167	3.5
		Trade	0.0	5307**	193.0
8733	Construction Electricians & Repairmen	Manufacturing	0.4	119	2.5
		Public Administration	0.1	1828	37.2
9318	Labourers, Material Handling	Manufacturing	0.3	182	3.8
		Public Administration	0.3	7111	144.5
1130	General Managers	Construction	0.6	541	3.2
		Trade	0.6	168	6.1
8798	Labourers, Other Construction Trades	Construction	10.9	279	1.6
		Community, Business & Personal Service	0.1	874	72.2
3134	Nursing Assistants	Community, Business & Personal Service	1.2	43	3.6
		Public Administration	0.1	14861	302.1
6129	Food & Beverage Preparation & Related Service, N.E.C.	Community, Business & Personal Service	1.1	41	3.4
		Public Administration	0.1	10746	218.4

6198	Labourers, Services	Community, Business & Personal Service	2.7	29	2.4
		Public Administration	0.2	763	15.5
8335	Welders & Flame Cutters	Manufacturing	2.8	211	4.4
		Transportation, Communication & Utilities	0.5	861	7.2
		Trade	0.3	544	19.8
8581	Motor Vehicle Mechanics & Repairmen	Manufacturing	0.6	109	2.3
		Transportation, Communication & Utilities	1.7	167	1.4
		Trade	5.0	77	2.8
9313	Longshoremen, Stevedores & Freight Handlers	Manufacturing	0.5	141	2.9
		Transportation, Communication & Utilities	1.7	910	7.7
		Trade	0.7	1066	38.8
9319	Material Handlers & Related, N.E.C.	Manufacturing	0.3	501	10.4
		Transportation, Communication & Utilities	0.1	1662	14.0
		Trade	0.1	1680	61.1
6191	Janitors, Charworkers & Cleaners	Manufacturing	1.1	78	1.6
		Community, Business & Personal Service	5.0	20	1.7
		Public Administration	1.8	151	3.1
8589	Mechanics & Repairmen, Except Electrical, N.E.C.	Mining	0.2	8884	24.4
		Manufacturing	0.3	1397	28.9
		Construction	0.1	7578	44.8
		Transportation, Communication & Utilities	0.3	1772	14.9
		Trade	0.3	1084	39.4
9175	Truck Drivers	Manufacturing	1.7	82	1.7
		Transportation, Communication & Utilities	10.1	209	1.8
		Trade	3.0	132	4.8
		Community, Business & Personal Service	0.6	148	12.2
		Public Administration	1.1	747	15.2

* With relatively narrow 90% confidence intervals, see tables 3.1.2, 3.2.2....3.8.2.

** Rate may be unreliable because of a relatively small number of workers in this occupation.

THE DISTRIBUTION OF FATAL RISKS IN ONTARIO INDUSTRIES

1.0 Introduction and Background

The aim of this project is to determine the non-radiological risk of occupational fatality for those individuals in industries for which the average annual risk of occupational risk does not exceed 10^{-3}.

A feasibility study was previously carried out by IEC Beak Consultants Ltd. This study defined high risk industries as those with over 52 fatalities per million employee years worked and low risk industries as those with less than that number of fatalities. The study also discussed potential sources of error, such as the non-reporting of accidents or illnesses; this is unlikely to be important for fatal claims, but may be important for non-fatal accidents or injuries. It was also pointed out that Workers' Compensation Board (WCB) coverage may not be complete. It is believed that for some industries, such as Construction, Mining and Manufacturing, the coverage may approach 100%, but in Agriculture it may be as low as 25-35% because of non-participation. Coverage in the Finance, Insurance and Real Estate sector may be less than 10%. Consequently in some industries, WCB claim statistics can seriously underestimate occupational risk.

The feasibility study indicated that estimates of non-fatal risk were highest in Forestry, followed by Mining, Manufacturing and Construction in descending order of risk. The lowest non-fatal risks were found in Finance, Insurance and Real Estate and Agriculture. Fatal risk estimates were highest in Forestry, followed by Mining, Fishing and Trapping, Construction and Transportation in descending order. The lowest fatal risks were in the "Finance, Insurance and Real Estate" Industry. The high risk estimate was based on the most dangerous occupation within each Industry, in terms of the 2-digit Standard Occupation Code (SOC). The study investigated the occupational risk ratios and the trends over time for each industry on the basis of the 2-digit SOC

classification. The two-digit SOC was used because of incomplete coverage by the WCB for some industries as well as the failure to code some claims by occupation.

The aim of the present project is to overcome these difficulties to some extent by checking the occupational classifications in greater detail, using the 4-digit SOC classification, and to extend the study by using one additional year for which data were available, and by using non-fatal risk rates to estimate fatal risk.

2.0 Methodology

2.1 Description of Data Sets

The results shown are derived from the combination of two data sets:

(a) Fatal and non-fatal injuries data provided by the Workers' Compensation Board of Ontario covering the years 1979 to 1984 inclusive;

(b) Industry and occupation data provided by Statistics Canada from the 1981 Census (Table SPE81B41).

2.1.1 Workers' Compensation Board Data

Fatal and non-fatal injury claims were made available by the statistical records department of the Workers' Compensation Board of Ontario (WCB). WCB covers all employed workers in Ontario; however, there is evidence that the agricultural and financial industries as well as some sections of the personal services industry (babysitters, domestics, etc.), are under-represented in the reporting of fatal and non-fatal injuries (IEC Beck, 1985).

A fatal injury is eligible for compensation if the claim is accepted by the WCB review committee to be work-related regardless of the place of death. A non-fatal injury is covered if it is considered work-related and is defined as disabling [1] if the worker in question has lost at least one day of work as a result of the injury.

Comparative data were available for the years 1979 to 1984 inclusive [2]. Fatal and non-fatal injuries are generally coded in the year that they occurred; however, if this information was not available, they were coded for the year of the claim and in some instances for the year in which the first compensation payment was made. Also, the actual occupation and industry are coded using the four-digit (detailed) 1971 Standard Occupational Classification (SOC) and the three-digit (detailed) 1970 Standard Industrial Classification (SIC) coding scheme, respectively. It is these two latter pieces of information, as well as the year of the injury and whether it is fatal or non-fatal, that are relevant for this study.

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[1] WCB also covers injuries with little or no work loss involved if medical aid is necessary; however, for the purpose of this study, only disabling injuries were included.

[2] Earlier data exist, but are not considered as reliable as the later data.

2.1.2. Statistics Canada Data

The population base or population at risk for each industry and occupation was derived from a cross-classification of occupations (1971 SOC) by industry (1970 SIC) for Ontario from the 1981 Census (Table SPE81B41). This table included population estimates for experienced paid workers 15 years of age and over, who were in the labour force since January 1, 1980, [3] and excludes inmates of institutions and the self-employed. It is therefore considered closest to the population eligible for coverage by the WCB.

[3] Experienced paid workers are persons who were employed at any time during the census year (unlike 'employed paid workers' who must be employed at the time of the census) and consider themselves to be part of the labour force.

2.2 Merging of Data Sets

A number of steps were necessary to combine the two data sets. A brief overview is given here and a fuller description of the process required to make the data comparable is given in Appendix A.

Since the WCB data comprised individual claim records, it was necessary to aggregate these so that the data were comparable to those provided by Statistics Canada. This involved the computation of counts of fatal and non-fatal claims by year for each combination of industry and occupation.

The population estimates for each combination of industry and occupation by year, derived from the Statistics Canada data, were merged with these data. On the assumption that there were no major changes in the distribution of the labour force by industry or occupation in the six-year period, the population estimates were computed using a correction factor based on the size of the labour force in each year relative to that in 1981 (actual factors are given in Appendix A, Table A-2).

The combined data included the following information: year, detailed 1970 SIC, detailed 1971 SOC, an estimate of total experienced paid workers as defined by Statistics Canada, total number of fatal injury claims, and total number of non-fatal injury claims.

2.3 Estimation of Industry Risk Rates

The fatal injury claim rates were estimated for each industry [4] for each year by dividing the number of claims by the estimated population. A six year average rate was computed for each industry by summing the number of claims for the six years and dividing by the sum of the populations. Only one industry, "Uranium Mining" had an average annual risk exceeding 10^{-3} and was excluded from further calculations. All occupations, including those which were "undefined" were used in the calculations arriving at the rates, with the exception of "Nuclear Engineers" and "X-ray Technicians" since these occupations are expected to involve some radiological risk.

[4] For the purpose of presentation, industries were collapsed into eight SIC divisions: Forestry; Mining; Manufacturing; Construction: Transportation, Communication and Utilities; Trade; Community, Business and Personal Service; and Public Administration.

2.4 Estimation of Occupational Fatal Risk Rates

An initial examination of the population distribution, using the 4-digit SOC coding scheme and summing over the six years, showed that 58.6% (272) of a total of 464 occupations reported no fatal claims. This absence of fatal claims is often due to small populations in specific occupations. Hence, the data are frequently not sufficiently extensive to make an accurate estimate of fatal risk.

Studies in other countries have demonstrated a relatively strong correlation between fatal and non-fatal injury rates across industries (ICRP Publication 45), suggesting that it may be appropriate to predict fatal risk rates with some confidence on the basis of non-fatal risk rates. Because of this relatively strong correlation and, since there were many more non-fatal claims in Ontario than fatal claims during the 6-year period, fatal risk rates were predicted from non-fatal rates.

In order to decide which prediction model would be most accurate, a number of steps were taken. The first step was to establish the existence of a strong correlation in the Ontario data between fatal and non-fatal claims for industries, as had been noted in data from other countries. Summing the Ontario fatal and non-fatal claims across the six years by industry, and calculating rates produced eight points for the scatter plot, one for each of eight industry divisions used. The observed correlation was .89 and when the natural logarithms of fatal and non-fatal rates were used, the correlation was found to be .94. It was concluded that the relationship between fatal and non-fatal injury rates in Ontario industries is similar to that observed for other countries.

However, since the main purpose of this study is to investigate the occupational risk distribution within industries, it is desirable to establish the best equation for regressing non-fatal risk and fatal risk across occupations, rather than industries. The correlation between fatal and non-fatal risk rates for occupations, summing across industries for the six year period, was therefore investigated.

The analysis also examined the influence of "unusual" occupations (e.g. Airline Pilots) on the correlations. Occupations were defined as "unusual" based on the ratios of fatal to non-fatal rates. Such occupations either had a relatively low number of fatal claims or a relatively high number of fatal claims. Varying the exclusion criteria, and regressing fatal rates on non-fatal rates, either weighted (by number of paid workers in each occupation) or un-weighted, the regression afforded a best correlation of .86 (unweighted; ℓn fatal vs. ℓn non-fatal) for occupations at the 3-digit SOC level (Table B-1) and, using the same criteria, .91 at the 4-digit level.

In the above-mentioned correlation for the 3-digit SOC, 21 "unusual" occupations were excluded (26.9% of the total number of 3-digit occupations): 11 of these occupations had a relatively low number of fatal claims (fatal rates of zero and non-fatal rates exceeding 3645×10^{-6}), and 10 occupations had a relatively high number of fatal claims with a ratio equal or greater than .005. Using the same criteria for the four-digit SOC analysis resulted in 243 occupations being excluded from the correlation (52.8% of the total number of 4-digit occupations); 181 occupations with a low number of fatal claims and 62 occupations with a relatively high number of fatal claims. The excluded occupations are shown in Tables B-2 and B-3 of Appendix B.

The resulting equation used for estimating fatal risk rates by occupation (4-digit SOC) was:

$$\ell n\ (fatal\ rate) = -22.78 + 2.4\ \ell n\ (non-fatal\ rate) \text{or}$$

$$fatal\ rate = e^{-22.78} \times non-fatal\ rate^{2.4}.$$

The predicted fatal rate was used, except for occupations with a relatively high number of fatal claims where the actual fatal claim rate was used since in most of these occupations the actual rate may be considered to be more reliable than the predicted one.

3.0 Results

The following tables present the average distribution over six years (1979-1984) of fatal risk among occupations based on the four-digit SOC coding scheme for each of eight industrial groups: Forestry; Mining; Manufacturing; Construction; Transportation, Communications and Utilities; Trade; Community, Business and Personal Service; and Public Administration.

Three tables are presented for each industry. The first type of table presents an overview of the relative risk of occupations to the industry average and the second table shows the distribution of fatal risk for each industry on the basis of the number and percentage of workers. It should be noted that the rates may be affected appreciably by a number of factors such as the level of WCB coverage, and the possibility of coding errors. For each rate, confidence intervals [5] were also calculated and the results in the third set of tables are based on these limits. This set of tables show the distribution of fatal risk for occupations with above average fatal claim rates. Occupations with relatively narrow confidence intervals[6] are highlighted. A wide confidence interval suggests less reliability of the data for a given occupation. A relatively large population of workers in an occupation (which will lead to a relatively smaller confidence interval), and/or a high proportion of WCB coverage, generally results in a more reliable estimate of fatal risk. Excluded from the third table are occupations where the total number of workers was less than the number of fatal and non-fatal injuries reported [7].

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[5] A 90% confidence interval means that in 9 out of 10 samples taken from the hypothetical population, the estimated rate will, on average, be within the range given by the confidence interval. That is, not every sample taken will afford identical rates, even if there are no changes in the hypothetical population which is assumed to represent the Ontario workforce.

[6] "Relatively narrow" was defined as describing occupations with an upper confidence limit not exceeding three times the estimated rate and affording rates based on adequate numbers.

[7] Errors of this sort usually arise when a combination of data sets are used and are generally due to a difference in coding decisions and record keeping.

All tables are based only on occupations that reported at least one fatal or non-fatal accident since in these cases some WCB coverage is assured. Occupations for which there were no fatal or non-fatal claims were mainly those that had relatively few workers during the six year period (usually less than 1000 workers). In addition, there were some occupations with more than 1000 workers and no non-fatal or fatal claims. These were mostly "white collar" occupations, such as those found in SOC major group 11 (Municipal, Administrative and Related Occupations); 21 (Occupations in Natural Sciences, Engineering and Mathematics); 23 (Occupations in Social Sciences and Related Fields); 25 (Occupations in Religion); 27 (Teaching and Related Occupations); 31 (Occupations in Medicine and Health); 33 (Artistic, Literary, Performing Arts and Related Occupations); and 41 (Clerical and Related Occupations), which are generally thought of as "safe" occupations. In addition, many service occupations, such as babysitting and housekeeping, found in SOC group 61 (Service Occupations) or primary occupations found in groups 73 (Fishing, Hunting, Trapping and Related Occupations) reported no fatal or non-fatal accidents, presumably because they are usually not covered by the WCB.

When interpreting the results for each industry, it should be noted that the industry averages vary widely for the eight industrial groups and consequently an occupation with a similar fatality rate in more than one industry may have a rate of as high as ten times the industry average in one industry and only twice the average in another.

All rates are given as a rate per million person years worked ($10^{-6}y^{-1}$), and are rounded to the nearest whole number in the text but not in the tables.

3.1 Forestry

There were 134 occupations within Forestry. Of these, 73 reported at least one fatal or non-fatal accident to the WCB during the six year period (1979-1984) while the remaining 61 occupations reported no fatal or non-fatal accidents.

The fatal risk distribution for occupations submitting at least one claim is shown in Table 3.1.1a. The industry average risk, weighted by the population, is 543 and a total of 11 occupations (15.1%) were above this rate:

- 7 occupations (9.6%) had at least twice (1086) the industry average fatal risk.
- 4 occupations (5.5%) had at least five times (2715) the industry average fatal risk.
- 2 occupations (2.7%) had at least ten times (5430) the industry average fatal risk.
- 2 occupations (2.7%) had at least twenty times (10860) the industry average fatal risk.

The remaining 62 occupations (84.9%) had predicted or actual fatal risk rates at or below the industry average.

The distribution of fatal risk for workers in Forestry is given in Table 3.1.1b. Almost one-third (32.8%) or 23,349 people were employed in occupations with risk above the industry average (543). Of these:

- 13,311 workers (18.7%) were in occupations with risk at least twice (1086) the industry average fatal risk.
- 450 workers (0.6%) were in occupations with risk at least five times (2715) the industry average fatal risk.

- 210 workers (0.3%) were in occupations with risk at least ten times (5430) the industry average fatal risk.

- 210 workers (0.3%) were in occupations with risk at least twenty times (10860) the industry average fatal risk.

Table 3.1.2 lists the occupations with above average fatal claim rates (either actual or predicted), in descending order. Three occupations had relatively narrow 90% confidence limits, and of these one occupation afforded at least twenty times (10860) the industry average rate (543):

- SOC 8238 (Labourers, Wood Processing, Except Pulp and Papermaking)
  Rate = 19755 *

One occupation, in addition to that mentioned above, afforded at least twice (1086) the industry average rate:

- SOC 7513 (Timber Cutters and Related)
  Rate = 2108

One other occupation was just above the industry average rate:

- SOC 7517 (Log Hoisters, Sorters & Movers)
  Rate = 932

* Rate may be unreliable because of a relatively small number of workers in this occupation

3.2 Mining

There were 235 different occupations within Mining and of these, 151 reported at least one fatal or non-fatal accident. The fatal risk distribution for these occupations, compared with the industry average, is given in Table 3.2.1a. There were 27 occupations (18.5%) with predicted fatal risk rates above the industry average (364):

- 16 occupations (10.6%) had at least twice (729) the industry average fatal risk.
- 11 occupations (7.3%) had at least five times (1821) the industry average fatal risk.
- 9 occupations (6.0%) had at least ten times (3643) the industry average fatal risk.
- 5 occupations (3.3%) had at least twenty times (7286) the industry average fatal risk.

The remaining 123 occupations (81.5%) had predicted or actual risk rates at or below the industry average.

The distribution of fatal risk for workers in Mining is given in Table 3.2.1b. About forty percent (40.2%) or 80,715 people were employed in occupations with fatal risk above the industry average (364). Of these:

- 5,199 workers (2.6%) were in occupations with risk at least twice (729) the industry average fatal risk.
- 2,584 workers (1.3%) were in occupations with risk at least five times (1821) the industry average fatal risk.
- 1,651 workers (0.8%) were in occupations with risk at least ten times (3643) the industry average fatal risk.

- 1,352 workers (0.7%) were in occupations with risk at least twenty times (7286) the industry average fatal risk.

Table 3.2.2 lists the occupations with above average fatal claim rates in descending order. Six occupations are highlighted in the table as having relatively narrow 90% confidence ranges. Of these, two occupations afforded fatal rates at least twenty times (7286) the industry average. They were:

- SOC 8589 (Mechanics & Repairmen Except Electrical, N.E.C.)
  Rate = 8884

- SOC 8118 (Labourers, Mineral Ore Treating)
  Rate = 8322

The other four occupations with narrow confidence intervals were just above the industry average (364) as follows:

- SOC 7718 (Labouring and Other Elemental Work, Mining/Quarrying, Oil/Gas)
  Rate = 465

- SOC 7710 (Foremen, Mining & Quarrying Including Oil & Gas Field)
  Rate = 455

- SOC 7717 (Mining, Quarrying, Cutting, Handling & Loading)
  Rate = 416

- SOC 7713 (Other Rock and Soil Drilling)
  Rate = 406

3.3 Manufacturing

There were 380 different occupations within Manufacturing: Of these, 326 reported at least one non-fatal or fatal accident to the WCB during the six year period (1979-1984). The remaining 54 occupations submitted no fatal or non-fatal claims.

The fatal risk distribution for occupations submitting at least one claim is shown in Table 3.3.1a. The industry average risk, weighted by the population, is 48, and a total of 94 occupations (28.8%) were above this rate:

- 71 occupations (21.8%) had at least twice (97) the industry average fatal risk
- 42 occupations (12.9%) had at least five times (242) the industry average fatal risk
- 23 occupations (7.1%) had at least ten times (484) the industry average fatal risk
- 12 occupations (3.7%) had at least twenty times (968) the industry average fatal risk

A total of 232 occupations (71.2%) had predicted or actual fatal risk rates at or below the industry average.

Table 3.3.1b presents the distribution of fatal risk for workers in Manufacturing. There were 1,701,573 people (29.1%) employed in occupations with fatal risk above the industry average (48). Of these:

- 1,195,852 workers (20.4%) were in occupations with risk at least twice (97) the industry average fatal risk.
- 363,939 workers (6.2%) were in occupations with risk at least five times (242) the industry average fatal risk.
- 226,155 workers (3.9%) were in occupations with risk at least ten times (484) the industry average fatal risk.

- 144,512 workers (2.5%) were in occupations with risk at least twenty times (968) the industry average fatal risk.

Table 3.3.2 lists the occupations with above average fatal claim rates in descending order. There were 40 occupations with relatively narrow confidence intervals. Nine occupations had at least twenty times the industry average rate (968):

- SOC 7713 (Other Rock and Soil Drilling)
  Rate = 17472 *
- SOC 8548 (Labourers; Fabricating, Assembling and Repairing Wood Products)
  Rate = 6204
- SOC 8228 (Labourers; Food and Beverage Processing)
  Rate = 3980
- SOC 8539 (Assembling, Installing and Repairing Electrical and Electronic Equipment, N.E.C.)
  Rate = 2108
- SOC 7513 (Timber Cutters and Related)
  Rate = 1638
- SOC 7717 (Mining & Quarrying: Cutting, Handling & Loading)
  Rate = 1407
- SOC 8589 (Mechanics and Repairmen, Except Electrical, N.E.C.)
  Rate = 1397
- SOC 8334 (Metal Working: Machine Operators, N.E.C.)
  Rate = 1139
- SOC 8153 (Separaters, Grinders, Crushers & Mixers: Clay, Glass & Stone Processing)
  Rate = 1122

Occupations with at least ten times (484) the industry average rate, in addition to those above, are:

* Rate may be unreliable because of a relatively small number of workers in this occupation.

- SOC 8173 (Coaters & Calenderers, Chemicals & Related Materials)
  Rate = 690

- SOC 8568 (Labourers: Assembling & Repairing, Textile, Fur & Leather Products)
  Rate = 647

- SOC 8529 (Other Fabricating and Assembling Metal Products, N.E.C.)
  Rate = 597

- SOC 8785 (Painters, Paperhangers & Related)
  Rate = 510

- SOC 9319 (Material Handlers and Related, N.E.C.)
  Rate = 501

Six additional occupation had at least five times (242) the industry average rate:

- SOC 8355 (Planers, Turners, Shapers & Related Wood Machinists)
  Rate = 452

- SOC 8159 (Clay, Glass & Stone Processing, N.E.C.)
  Rate = 422

- SOC 8238 (Labourers, Wood Processing, Except Pulp)
  Rate = 418

- SOC 5193 (Driver - Salesmen)
  Rate = 416

- SOC 8393 (Filers, Grinders, Buffers, Cleaners and Polishers, N.E.C.)
  Rate = 399

- SOC 8549 (Fabricating, Assembling & Repairing, Wood Products, N.E.C.)
  Rate = 352

Fourteen occupations had at least twice (97) the average fatal risk:

- SOC 8528 (Labourers, Metal Products, Assembling, N.E.C.)
  Rate = 220

- SOC 8335 (Welders and Flame Cutters)
  Rate = 211

- SOC 9318 (Labourers, Material Handling)
  Rate = 182

- SOC 8513 (Motor Vehicle Assemblers)
  Rate = 181

- SOC 8578 (Labourers: Assembling & Repairing Rubber, Plastic & Related Products)
  Rate = 167

- SOC 8137 (Moulders, Coremakers & Metal Casters)
  Rate = 166

- SOC 8333 (Sheet Metal Workers)
  Rate = 162

- SOC 9313 (Longshoremen, Stevedores & Freight Handlers)
  Rate = 141

- SOC 8148 (Labourers, Metal Processing)
  Rate = 140

- SOC 9175 (Truck Drivers)
  Rate = 137

- SOC 8733 (Construction Electricians & Repairmen)
  Rate = 119

- SOC 8179 (Chemicals, Petroleum, Rubber, Plastic & Related Materials Processors, N.E.C.)
  Rate = 116

- SOC 8581 (Motor Vehicle Mechanics & Repairmen)
  Rate = 109

- SOC 8130 (Foremen, Metal Processing & Related)
  Rate = 108

Finally, five remaining occupation were predicted to have risk rates just above the industry average:

- SOC 8579 (Assembling & Repairing: Rubber and Related Products. N.E.C.)
  Rate = 84

- SOC 6191 (Janitors, Charworkers & Cleaners)
  Rate = 78

- SOC 8215 (Slaughterers, Meat Cutters, Canners, Curers & Packers)
  Rate = 74

- SOC 8313 (Machinists and Machine Tool Setters)
  Rate = 72

- SOC 1149 (Other Managers & Administrators, N.E.C.)
  Rate = 61

3.4 Construction

There were 298 occupations in the Construction industry. Of these, 218 reported at least one fatal or non-fatal accident to the WCB and 80 submitted no claims.

The distribution of risk for the occupations with at least one fatal or non-fatal claim is presented in Table 3.4.1a. Almost one quarter (23.4%) or 51 of the occupations had predicted fatal rates above the industry average rate (169):

- 32 occupations (14.7%) had at least twice (339) the industry average fatal risk.
- 26 occupations (11.9%) had at least five times (846) the industry average fatal risk.
- 20 occupations (9.2%) had at least ten times (1693) the industry average fatal risk.
- 11 occupations (5.0%) had at least twenty times (3386) the industry average fatal risk.

A total of 167 (76.6%) of the occupations reporting to WCB in Construction had fatal risk rates at or below the industry average.

Table 3.4.1b presents the distribution of fatal risk for workers in Construction. There were 229,370 workers (18.4%) employed in occupations with fatal risk above the industry average. Of these:

- 20,583 workers (1.6%) were in occupations with risk at least twice (339) the industry average fatal risk.
- 9,945 workers (0.8%) were in occupations with risk at least five times (846) the industry average fatal risk.
- 6,851 workers (0.5%) were in occupations with risk at least ten times (1693) the industry average fatal risk.

- 3,847 workers (0.3%) were in occupations with at least twenty times (3386) the industry average fatal risk.

Occupations with fatal rates above the industry average, whose 90% confidence intervals were relatively narrow, are shown in Table 3.4.2.

There were seven such occupations. Of these, two occupations had rates at least twenty times (3386) the industry average:

- SOC 8589 (Mechanics & Repairmen Except Electrical, N.E.C.)
  Rate = 7578

- SOC 8529 (Other Fabricating & Assembling, Metal Products, N.E.C.)
  Rate = 3980

There was one occupation with a rate at least twice (339) the industry average:

- SOC 1130 (General Managers & Senior Officials)
  Rate = 541

Four occupations had rates just above the industry average:

- SOC 8786 (Insulators, Construction)
  Rate = 315

- SOC 8798 (Labourers, Other Construction Trades)
  Rate = 279

- SOC 8793 (Structural Metal Erectors)
  Rate = 262

- SOC 8711 (Excavators, Graders & Related)
  Rate = 225

3.5 Transportation, Communications & Utilities

There were a total of 349 occupations in Transportation, Communications & Utilities. Of these, 259 submitted at least 1 fatal or non-fatal claim to the Workers' Compensation Board between 1979 and 1984. The remaining 90 occupations had no claims.

The overall distribution of risk for those occupations with at least 1 claim is given in Table 3.5.1a. A total of 44 occupations (17.0%) had fatal risk rates above the industry average fatal rate (119):

- 27 occupations (10.4%) had at least twice (238) the industry average fatal risk.
- 13 occupations (5.0%) had at least five times (594) the industry average fatal risk.
- 9 occupations (3.5%) had at least ten times (1188) the industry average fatal risk.
- 4 occupations (1.5%) had at least twenty times (2376) the industry average fatal risk.

The remaining 215 (83.0%) had predicted fatal rates at or below the industry average.

The distribution of fatal risk for workers in Transportation, Communication and Utilities is given in Table 3.5.1b. Just over one quarter (27.4%) or 477,998 of the workers employed in this industry were in occupations with above fatal risk. Of these:

- 315,162 workers (18.1%) were in occupations with risk at least twice (238) the industry average fatal risk.
- 60,545 workers (3.5%) were in occupations with risk at least five times (594) the industry average fatal risk.

- 16.792 workers (1.0%) were in occupations with risk at least ten times (1188) the industry average fatal risk.

- 930 workers (0.1%) were in occupations with risk at least twenty times (2376) the industry average fatal risk.

There are eleven occupations presented in Table 3.5.2 with above average fatal claim rates and relatively narrow 90% confidence limits. Two had rates of at least ten times (1188) the industry average:

- SOC 9319 (Material Handlers & Related, N.E.C.)
  Rate = 1662

- SOC 9111 (Pilots, Navigators & Flight Engineers)
  Rate = 1292

Three additional occupations had at least five times (594) the industry average:

- SOC 8589 (Mechanics & Repairmen, Except Electrical, N.E.C.)
  Rate = 1172

- SOC 9313 (Longshoremen, Stevedores & Freight Handlers)
  Rate = 910

- SOC 8335 (Welders & Flame Cutters)
  Rate = 861

Four occupations had at least twice (238) the industry average fatal risk:

- SOC 8731 (Electrical Power Linemen & Related)
  Rate = 390

- SOC 9133 (Conductors & Brakemen, Railway)
  Rate = 380

- SOC 9175 (Truck Drivers)
  Rate = 270

- SOC 9170 (Foremen, Motor Transport Operating)
  Rate = 256

The remaining occupations with relatively narrow confidence intervals were just above the industry average:

- SOC 4172 (Mail Carriers)
  Rate = 215

- SOC 9131 (Locomotive Engineers & Firemen)
  Rate = 206

- SOC 8581 (Motor Vehicle Mechanics & Repairmen)
  Rate = 167

3.6 Trade

There were 413 occupations in Trade, 322 of which reported at least one fatal or non-fatal accident. The remaining 91 occupations had no fatal or non-fatal claims.

There were 92 occupations (28.6%) with risk above the industry average (27) for the six year period (see Table 3.6.1a):

- 69 occupations (21.4%) had at least twice (55) the industry average fatal risk.
- 42 occupations (13.0%) had at least five times (137) the industry average fatal risk.
- 26 occupations (8.1%) had at least ten times (275) the industry average fatal risk.
- 18 occupations (5.6%) had at least twenty times (550) the industry average fatal risk.

The remaining 230 occupations (71.4%) had fatal risk rates at or below the industry average rate.

The distribution of fatal risk for workers employed in the Trade industry is shown in Table 3.6.1b. There were 839,564 people (21.1%) employed in occupations with above average fatal rates. Of these:

- 651,481 workers (16.4%) were in occupations with risk at least twice (55) the industry average fatal risk.
- 173,385 workers (4.4%) were in occupations with risk at least five times (137) the industry average fatal risk.
- 78,245 workers (2.0%) were in occupations with risk at least ten times (275) the industry average fatal risk.

- 60,518 workers (1.5%) were in occupations with risk at least twenty times (550) the industry average fatal risk.

Table 3.6.2 lists the occupations with above average fatal rates and highlights those with relatively narrow 90% confidence intervals. Seven occupations had reates at least twenty times (550) the industry average:

- SOC 8578 (Labourers: Assembling & Repairing, Rubber, Plastic and Related Products)
  Rate = 5307

- SOC 8334 (Metal Working - Machine Operators, N.E.C.)
  Rate = 2417

- SOC 9319 (Material Handlers & Related, N.E.C.)
  Rate = 1680

- SOC 8513 (Motor Vehicle Assemblers, N.E.C.)
  Rate = 1305

- SOC 8589 (Mechanics, Repairmen, Except Electrical, N.E.C.)
  Rate = 1085

- SOC 9313 (Longshoremen, Stevedores & Freight Handlers)
  Rate = 1067

- SOC 8538 (Labourers: Assembling, Installing & Repairing Electrical, Electronic & Related Equipment, N.E.C.)
  Rate = 577

One occupation had at least ten times (275) the industry average fatal rate:

- SOC 8335 (Welders & Flame Cutters)
  Rate = 544

Two occupations had fatal risk rates at least five times (137) the industry average:

- SOC 8215 (Slaughterers, Meat Cutters, Canners, Curers & Packers)
  Rate = 192

- SOC 1130 (General Managers & Senior Officers)
  Rate = 169

Three occupations had rates at least twice the industry average:

- SOC 9175 (Truck Drivers)
  Rate = 132

- SOC 8581 (Motor Vehicle Mechanics & Repairmen)
  Rate = 77

- SOC 5133 (Commercial Travellers)
  Rate = 58

3.7 Community, Business & Personal Service

There were a total of 416 occupations in Community, Business and Personal Service and of these 328 reported at least one fatal or non-fatal accident. The remaining 88 occupations had no fatal or non-fatal claims. The overall distribution of risk for Community, Business & Personal Service is given in Table 3.7.1a.

Of those occupations with at least one claim, 59 (18.0%) had fatal risk rates above the industry average (12):

- 48 occupations (14.6%) had at least twice (24) the industry average fatal risk.
- 28 occupations (8.5%) had at least five times (60) the industry average fatal risk.
- 21 occupations (6.4%) had at least ten times (121) the industry average fatal risk.
- 11 occupations (3.4%) had at least twenty times (242) the industry average risk.

The remaining 269 occupations (82.0%) had fatal risk rates at or below the industry average.

Table 3.7.1b presents the distribution of fatal risk for workers in Community, Business and Personal Services. 22.5% of the total workforce (1,534,077) in this industry are employed in occupations with above average fatal risk. Of these:

- 669,886 workers (9.8%) were in occupations with risk at least twice (24) the industry average fatal risk.
- 237,246 workers (3.5%) were in occupations with risk at least five times (60) the industry average fatal risk.

70,344 workers (1.0%) were in occupations with risk at least ten times (121) the industry average fatal risk.

- 10,246 workers (0.1%) were in occupations with risk at least twenty times (242) the industry average fatal risk.

The distribution of risk for those occupations with above average fatal claims is given in Table 3.7.2. Eight occupations had relatively narrow 90% confidence intervals. Of these, one occupation had a rate of at least twenty times (242) the industry average:

- SOC 8798 (Labourers, Other Construction Trades)
  Rate = 874

An additional occupation had a rate of at least ten times (121) the industry average:

- SOC 9175 (Truck Drivers)
  Rate = 148

One occupation had at least five times (60) the industry average rate:

- SOC 3135 (Nursing Aides & Orderlies)
  Rate = 96

Three occupations had at least twice (24) the industry average rate:

- SOC 3134 (Nursing Assistants)
  Rate = 43

- SOC 6129 (Food & Beverage Preparation and Related Services)
  Rate = 41

- SOC 6198 (Labourers, Service)
  Rate = 29

The final two selected occupations had fatal rates just slightly above the industry average:

- SOC 6191 (Janitors, Charworkers & Cleaners)
  Rate = 20

- SOC 6121 (Chefs & Cooks)
  Rate = 14

3.8 Public Administration

The final industry included in this analysis was Public Administration with a total of 355 different occupations. Fifty six occupations had no fatal or non-fatal claims and 299 had submitted at least one fatal or non-fatal claim to the Workers' Compensation Board for the six year period (1979-1984). Of those occupations with at least one claim 71 (23.7%) had predicted fatal risk rates above the industry average rate (49):

- 59 occupations (19.1%) had at least twice (98) the industry average fatal risk.
- 49 occupations (16.4%) had at least five times (246) the industry average fatal risk.
- 38 occupations (12.7%) had at least ten times (492) the industry average fatal risk.
- 27 occupations (9.0%) had at least twenty times (984) the industry average fatal risk.

The remaining 228 occupations (76.3%) had fatal risk rates at or below the industry average (see Table 3.8.1a).

Table 3.8.1b shows the distribution of fatal risk for workers in Public Administration. There were 341,511 people (20.6%) employed in occupations with fatal risk above the industry average. Of these:

- 139,337 workers (8.4%) were in occupations with risk at least twice (98) the industry average fatal risk.
- 89,572 workers (5.4%) were in occupations with risk at least five times (246) the industry average fatal risk.
- 62,949 workers (3.8%) were in occupations with risk at least ten times (492) the industry average fatal risk.

- 31,522 workers (1.9%) were in occupations with risk at least twenty times (984) the industry average fatal risk.

The distribution of those occupations in Public Administration with above average fatal risk rates is presented in Table 3.8.2. Nine occupations with relatively narrow 90% confidence intervals were found to have rates at least twenty times (984) the industry average:

- SOC 9173 (Taxi Drivers Drivers Chauffers)
  Rate = 22060

- SOC 3134 (Nursing Assistants)
  Rate = 14861

- SOC 6129 (Food & Beverage Preparation & Related Service, N.E.C.)
  Rate = 10746

- SOC 9318 (Labourers, Material Handling)
  Rate = 7111

- SOC 9315 (Material Handling Equipment Operators, N.E.C.)
  Rate = 6598

- SOC 9171 (Bus Drivers)
  Rate = 3926

- SOC 7182 (Farm Workers)
  Rate = 1999

- SOC 4173 (Mail & Postal Clerks)
  Rate = 1855

- SOC 8733 (Construction Electricians & Repairmen)
  Rate = 1828

Two occupations had at least five times (246) the industry average rate:

- SOC 6198 (Labourers, Service)
  Rate = 763

- SOC 9175 (Truck Drivers)
  Rate = 747

One occupation had at least twice (98) the industry average rate:

- SOC 6191 (Janitors, Charworkers & Cleaners)
  Rate = 151

Two occupations had fatal risk rates just slightly higher than the industry average (49):

- SOC 6111 (Firefighters)
  Rate = 88

- SOC 6112 (Policemen, Detectives, Government)
  Rate = 75

4.0 Discussion of the Results and Conclusions

The distribution of high-risk occupations and of workers engaged in these occupations varied widely between the different industries. There are three main factors associated with this. First, high-risk occupations are identified on the basis of the average risk for the industry and these average rates vary appreciably between different industries. Second, the number of occupations with relatively narrow 90% confidence intervals also vary by industry. Third, using claims from only one province for the six year period (1979-1984) does not afford a sufficiently large data base, to predict fatal risk rates at the detailed level of occupation as reliably as would be desirable.

Nevertheless, a number of tentative conclusions can be drawn about the distribution of fatal risks in Ontario industries. The majority of occupations within each of the eight industries highlighted in this study had rates below or close to the industry average; however, between 15% and 30% of the occupations in any given industry had fatal risk rates above the industry average. In some industries as many as 40% of the total labour force were employed in occupations with above average risk rates.

The occupations with relatively high fatal risk rates are summarized in Table C of the Highlights section. A number of points should be noted in connection with this table. First, some of the relatively high risk occupations are identified in more than one industry, for example, Truck Drivers (SOC-9175), Welders and Flame Cutters (SOC-8335) and Mechanics and Repairmen, Except Electrical, N.E.C. (SOC-8589). However, the rates sometimes vary appreciably across different industries. Welders and Flame Cutters, for example, show rates of 211 (Manufacturing), 544 (Trade) and 861 (Transportation, Communications & Utilities). For Truck drivers the rates vary between 82 (Manufacturing) and 747 (Public Administration), and for Mechanics and Repairmen, except Electrical, N.E.C., the rates range from 1084 (Trade) to 8884 (Mining). These variations are not entirely unexpected since it may be that carrying out the same job in one industry is more hazardous than in another (e.g. driving a large

transport truck long distances may involve different risks than driving a small truck locally). Also, different types of recruiting criteria may exist in different industries and individuals with varying skill levels and other background characteristics (i.e. education, age, etc.) may be employed in what represents a different type of activity although it is described by the same SOC. Finally, some of the variations, as well as the difference in the fatal risk rates for occupations not highlighted may be partly due to insufficient data, resulting in large confidence intervals, or because the estimate based on the regression estimate may not be reliable.

5.0 Recommendations

A major weakness, and/or barrier to a greater robustness of the results, is that in many occupations there are relatively few reported injuries to reliably predict fatal risks. This is reflected in the confidence intervals which were often quite wide. The recommendation, therefore, is to repeat the analysis using Canadian claims data from the various Workers' Compensation Boards in the different provinces. These data have been released recently by Statistics Canada for the years 1982-1984. Earlier data also exist which would help in identifying trends, although an exploration of their reliability and completeness would have to be undertaken. An increased data base would also improve the predictive power of the regression model and thus remove some of the uncertainty associated with the estimated risk for occupations with no fatal claims.

Hence, in addition to analyzing the available data set from Statistics Canada, a more detailed investigation of WCB coverage in each province is recommended.

TABLES

TABLE 3.1.1a

Distribution of Fatal Risk for Occupations in Forestry

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF OCCUPATIONS[2]	PERCENTAGE OF OCCUPATIONS
Occupations with Risk at least twenty times the Industry Average	2	2.7
Occupations with Risk at least ten times the Industry Average	2	2.7
Occupations with Risk at least five times the Industry Average	4	5.5
Occupations with Risk at least two times the Industry Average	7	9.6
Total Number of Occupations with Risk above the Industry Average	11	15.1
Total Number of Occupations with Risk at or below the Industry Average	62	84.9

[1] Industry Average Fatal Risk = 543.0 $10^{-6}y^{-1}$

[2] Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.1.1b

Distribution of Fatal Risk for Workers in Forestry

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF WORKERS[2]	PERCENTAGE OF WORKERS
Workers in Occupations with Risk at least twenty times the Industry Average	210	0.3
Workers in Occupations with Risk at least ten times the Industry Average	210	0.3
Workers in Occupations with Risk at least five times the Industry Average	450	0.6
Workers in Occupations with Risk at least two times the Industry Average	13311	18.7
Total Number of Workers in Occupations with Risk above the Industry Average	23349	32.8
Total Number of Workers in Occupations with Risk at or below the Industry Average	47741	67.2

[1]Industry Average Fatal Risk = $543.0\ 10^{-6}{}_{y}{}^{-1}$

[2]Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.1.2

Above Average Fatal Claim Rates for Non-Radiological Occupations

Forestry

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8230	Foremen, Wood Processing, Except Pulp & Papermaking	30	7	1.00	.03	33333.3	(1708.2, 158194.6)
*8238	Labourers, Wood Processing, Except Pulp & Papermaking	180	147	.00	3.56	19755.1	(6203.5, 47471.5)
8589	Mechanics & Repairmen, Except Electrical, N.E.C.	180	76	.00	.73	4055.7	(82.1, 23891.7)
8258	Labourers, Pulp & Papermaking	60	23	.00	.19[4]	3216.3	(0.0, 55932.4)
*7513	Timber Cutters & Related	12170	3912	15.00	25.65	2107.8	(1472.9, 2930.9)
1149	Other Managers & Administrators, N.E.C.	511	4	1.00	.00	1956.9	(100.3, 9287.4)
8353	Wood Sawers & Related, Except Sawmill	180	53	1.00	.31	1707.6	(0.0, 19858.1)
7516	Log Inspectors, Graders & Scalers	1052	9	1.00	.00	950.6	(48.7, 4511.3)
*7517	Log Hoisters, Sorters & Movers	7513	812	7.00	1.16	931.7	(437.1, 1750.4)
8711	Excavators, Graders & Related	1443	59	1.00	.02	693.0	(35.5, 3288.9)
8799	Other Construction Trades, Trades, N.E.C.	30	6	.00	.02	674.9	(0.0, 101186.1)

*Occupations with an upper Confidence Limit not exceeding three times the estimated rate and affording rates based on adequate numbers.

[1]1979-1984.

[2]The overall fatal claim rate for Forestry is 543.0 $10^{-6}y^{-1}$.

[3]Rates and Poisson Confidence Intervals are based on the underlined number of fatal claims (either actual or predicted).

[4]These occupations were not included in the correlation because the number of non-fatal claims are considered to be disproportionately high. However, in the absence of actual fatal claims, the predicted value is given on the basis of the regression equation; this value should be regarded as relatively less reliable.

TABLE 3.2.1a

Distribution of Fatal Risk for Occupations in Mining

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF OCCUPATIONS[2]	PERCENTAGE OF OCCUPATIONS
Occupations with Risk at least twenty times the Industry Average	5	3.3
Occupations with Risk at least ten times the Industry Average	9	6.0
Occupations with Risk at least five times the Industry Average	11	7.3
Occupations with Risk at least two times the Industry Average	16	10.6
Total Number of Occupations with Risk above the Industry Average	28	18.5
Total Number of Occupations with Risk at or below the Industry Average	123	81.5

[1]Industry Average Fatal Risk = $364.3\,10^{-6}y^{-1}$

[2]Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.2.1b

Distribution of Fatal Risk for Workers in Mining

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF WORKERS[2]	PERCENTAGE OF WORKERS
Workers in Occupations with Risk at least twenty times the Industry Average	1352	0.7
Workers in Occupations with Risk at least ten times the Industry Average	1651	0.8
Workers in Occupations with Risk at least five times the Industry Average	2584	1.3
Workers in Occupations with Risk at least two times the Industry Average	5199	2.6
Total Number of Workers in Occupations with Risk above the Industry Average	80715	40.2
Total Number of Workers in Occupations with Risk at or below the Industry Average	120003	59.8

[1] Industry Average Fatal Risk = $364.3\ 10^{-6}\ y^{-1}$

[2] Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.2.2

Above Average Fatal Claim Rates for Non-Radiological Occupations

Mining

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8715	Railway Sectionmen & Trackmen	90	59	.00	1.05	11658.3	(673.8, 53631.3)
8782	Brick & Stone Masons & Tile Setters	60	38	1.00	.64	10732.2	(131.4, 69143.9)
*8589	Mechanics & Repairmen, Except Electrical, N.E.C.	451	264	1.00	4.01	8883.8	(3041.7, 20331.2)
*8118	Labourers, Mineral Ore Treating	721	104	6.00	.22	8321.8	(3623.4, 16429.1)
7513	Timber Cutters & Related	60	31	.00	.40	6583.8	(0.0, 62223.1)
8148	Labourers, Metal Processing	119	52	2.00	.52	4404.2	(21.1, 33134.5)
8178	Labourers: Chemical, Petroleum, Rubber & Plastics Materials Processing	30	13	.00	.13	4316.6	(0.0, 108148.4)
8334	Metalworking - Machine Operators, N.E.C.	90	39	.00	.39	4316.6	(0.0, 41285.7)
2147	Mechanical Engineers	451	0	1.00[5]	.00	2217.3	(113.6, 10522.9)
8131	Metal Smelting, Converting & Refining Furnacemen	482	152	3.00	.97	2013.2	(95.5, 9744.9)
8585	Business Machine Mechanics	60	17	.00	.09[4]	1557.0	(0.0, 52820.3)
9193	Motormen & Dinkeymen, Except Rail Transport	1413	381	1.00	1.95	1382.5	(237.2, 4404.1)
8151	Furnace & Kiln Men: Clay, Glass, Stone	30	8	.00	.04[4]	1346.2	(0.0, 102467.8)
2119	Physical Sciences, N.E.C.	962	30	1.00	.01	1039.5	(53.3, 4933.3)
8719	Excavating, Grading & Paving, N.E.C.	150	35	.00	.15	977.0	(0.0, 21878.6)

TABLE 3.2.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Mining

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8113	Mixers, Separators, Filterers & Related, Mineral Ores	1413	50	1.00	.01	707.7	(36.3, 3358.7)
8119	Mineral Ore Treaters, N.E.C.	119	22	.00	.07[4]	558.8	(0.0, 26313.5)
8313	Machinists & Machine Tool Setters	511	91	.00	.26	510.8	(0.0, 6818.2)
*7718	Labouring & Other Elemental Work, Mining/Quarrying, Gas/Oil	15055	1058	7.00	.83	465.0	(218.1, 873.5)
*7710	Foremen, Mining & Quarrying Including Oil & Gas Field	13192	531	6.00	.19	454.8	(198.0, 897.9)
8137	Moulders, Coremakers & Metal Casters	119	20	.00	.05	444.6	(0.0, 25993.1)
8143	Platters, Metal Sprayers & Related	90	15	.00	.04[4]	435.7	(0.0, 34155.9)
8379	Clay, Glass & Stone Machining, N.E.C.	30	5	.00	.01	435.7	(0.0,100542.6)
9319	Materials Handlers & Related, N.E.C.	421	70	.00	.18	433.2	(0.0, 7927.5)
*7717	Mining & Quarrying: Cutting, Handling & Loading	26444	1858	11.00	1.45	416.0	(233.2, 688.7)
*7713	Other Rock & Soil Drilling	17640	2856	6.00	7.17	406.4	(192.8, 758.0)

TABLE 3.2.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Mining

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8798	Labourers, Other Construction Trades	482	78	.00	.20	406.0	(0.0, 7000.8)

*Occupations with an upper Confidence Limit not exceeding three times the estimated rate and affording rates which are based on adequate numbers.

[1]1979-1984.

[2]The overall fatal claim rate for Mining is 364.3 $10^{-6}y^{-1}$.

[3]Rates and Poisson Confidence Intervals are based on the underlined number of fatal claims (either actual or predicted).

[4]These occupations were not included in the correlation because the number of non-fatal claims are considered to be disproportionately high. However, in the absence of actual fatal claims, the predicted value is given on the basis of the regression equation; this value should be regarded as relatively less reliable.

[5]In the absence of non-fatal claims the actual value of fatal claims is given.

TABLE 3.3.1a

Distribution of Fatal Risk for Occupations in Manufacturing

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF OCCUPATIONS[2]	PERCENTAGE OF OCCUPATIONS
Occupations with Risk at least twenty times the Industry Average	12	3.7
Occupations with Risk at least ten times the Industry Average	23	7.1
Occupations with Risk at least five times the Industry Average	42	12.9
Occupations with Risk at least two times the Industry Average	71	21.8
Total Number of Occupations with Risk above the Industry Average	94	28.8
Total Number of Occupations with Risk at or below the Industry Average	232	71.2

[1] Industry Average Fatal Risk = $48.4\ 10^{-6} y^{-1}$

[2] Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.3.1b

Distribution of Fatal Risk for Workers in Manufacturing

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF WORKERS[2]	PERCENTAGE OF WORKERS
Workers in Occupations with Risk at least twenty times the Industry Average	144512	2.5
Workers in Occupations with Risk at least ten times the Industry Average	226155	3.9
Workers in Occupations with Risk at least five times the Industry Average	363939	6.2
Workers in Occupations with Risk at least two times the Industry Average	1195852	20.4
Total Number of Workers in Occupations with Risk above the Industry Average	1701573	29.1
Total Number of Workers in Occupations with Risk at or below the Industry Average	4154635	70.9

[1] Industry Average Fatal Risk = $48.4\ 10^{-6}\ y^{-1}$

[2] Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.3.2

Above Average Fatal Claim Rates for Non-Radiological Occupations

Manufacturing

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
7311	Captains & Officers, Fishing Vessels	30	1	1.00	.00	33333.3	(1708.2, 158194.6)
*7713	Other Rock & Soil Drilling	781	606	2.00	13.65	17472.0	(10487.4, 27484.1)
*8548	Labourers: Fabricating, Assembling & Repairing, Wood Products	5589	2817	2.00	34.67	6203.8	(4577.8, 8235.3)
*8228	Labourers, Food & Beverage Processing	25333	10612	2.00	100.81	3979.6	(3350.7, 4695.6)
7313	Fishermen: Net, Trap & Line	451	25	1.00	.01	2217.3	(113.6, 10522.9)
*8539	Assembling, Installing & Repairing, Electrical & Electronic Equipment	6190	1990	1.00	13.05	2108.4	(1248.3, 3349.4)
5179	Sales: Services, N.E.C.	541	2	1.00	.00	1848.4	(94.7, 8772.3)
*7513	Timber Cutters & Related	4447	1287	8.00	7.29	1638.3	(783.3, 3041.5)
*7717	Mining & Quarrying: Cutting, Handling & Loading	2133	243	3.00	.37	1406.5	(383.1, 3636.1)
*8589	Mechanics & Repairmen, Except Electrical, N.E.C.	17188	4655	2.00	24.01	1397.1	(963.3, 1964.3)
*8334	Metalworking - Machine Operators, N.E.C.	79154	19687	4.00	90.14	1138.9	(948.9, 1356.7)
*8153	Separaters, Grinders, Crushers & Mixers: Clay Glass & Stone Processing	2675	163	3.00	.10	1121.5	(305.5, 2899.4)
7182	Farm Workers	1111	246	1.00	.96	861.6	(40.4, 4213.1)
*8158	Labourers: Clay, Glass & Stone Processing & Forming	7002	1549	1.00	6.02	859.7	(375.0, 1695.5)

TABLE 3.3.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Manufacturing

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
*8173	Coaters & Calenderers, Chemicals & Related Materials	3185	643	.00	2.20[4]	690.0	(137.6, 2070.9)
*8568	Labourers: Assembling & Repairing, Textile, Fur & Leather Products	5649	1110	.00	3.65[4]	646.9	(206.5, 1534.9)
8583	Rail Transport Equipment Mechanics	1472	286	.00	.93	629.6	(26.8, 3146.6)
*8529	Other Fabricating & Assembling, Metal Products, N.E.C.	34378	6532	4.00	20.52	596.8	(397.9, 863.1)
8786	Insulaters, Construction	1743	44	1.00	.01	573.7	(29.4, 2722.8)
7710	Foremen: Mining & Quarrying, including Oil & Gas Field	1863	217	1.00	.34	536.8	(27.5, 2547.4)
*8785	Painters, Paperhangers & Related	5138	914	.00	2.62	509.5	(122.4, 1403.2)
*9319	Material Handlers & Related, N.E.C.	19983	3530	1.00	10.01	501.0	(271.8, 849.7)
7715	Blasting	119	21	.00	.06[4]	499.8	(0.0, 26153.5)
4157	Weighers	4416	154	2.00	.05	452.9	(80.5, 1426.2)
*8355	Planers, Turners, Shapers & Related Wood Machinists	7273	1231	.00	3.29[4]	452.1	(133.2, 1123.0)
7518	Labourers, Forestry & Logging	902	150	.00	.39[4]	433.4	(0.0, 4119.4)
*8159	Clay, Glass & Stone Processing, N.E.C.	8294	1364	1.00	3.50	422.0	(130.6, 1020.3)

TABLE 3.3.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Manufacturing

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
*8238	Labourers, Wood Processing, Except Pulp	10938	1792	5.00	4.57	418.1	(155.8, 908.3)
*5193	Driver - Salesmen	10849	1773	2.00	4.51	415.7	(153.7, 908.3)
*8393	Filers, Grinders, Buffers, Cleaners & Polishers, N.E.C.	31614	5081	2.00	12.62	399.3	(233.9, 639.2)
*8549	Fabricating, Assembling & Repairing, Wood Products, N.E.C.	14002	2134	1.00	4.92	351.5	(137.1, 743.4)
8586	Inspectors, Testers, Graders, Samplers Equipment Repair, Except Electrical	2885	23	1.00	.00	346.6	(17.8, 1645.0)
2151	Metallurgical Engineers	3335	13	1.00	.00	299.9	(15.4, 1423.0)
8236	Inspectors, Testers, Graders, Samplers, Wood Processing, Except Pulpmaking	3397	42	1.00	.00	294.4	(15.1, 1397.1)
7517	Log Hoisters, Sorters & Movers	3546	441	1.00	.77	282.0	(14.5, 1338.4)
2155	Aeronautical Engineers	3726	27	1.00	.00	268.4	(13.8, 1273.7)
8171	Crushers & Grinders, Chemicals & Related Materials	2133	287	.00	.56[4]	260.7	(1.8, 1880.9)
8211	Flour & Grain Millers	8084	293	2.00	.09	247.4	(44.0, 779.1)
8165	Distillers, Sublimers & Carbonizers, Chemicals & Related Materials	4058	64	1.00	.01	246.4	(12.6, 1169.5)
8178	Labourers: Chemical, Petroleum, Rubber & Plastics Materials Processing	8054	1055	1.00	1.97	244.4	(42.6, 776.4)

TABLE 3.3.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Manufacturing

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
9518	Labourers, Printing & Related	8294	1086	.00	2.03[4]	244.2	(44.3, 764.8)
8217	Fish Canners, Curers & Packers	1984	259	.00	.48[4]	242.4	(0.0, 1952.4)
8250	Foremen, Pulp & Papermaking	8474	60	2.00	.00	236.0	(41.9, 743.2)
*8528	Labourers, Metal Products Assembling, N.E.C.	12681	1590	1.00	2.79	220.1	(56.1, 587.9)
8719	Excavating, Grading & Paving, N.E.C.	482	60	.00	.10	216.3	(0.0, 6614.3)
8538	Labourers: Assembling, Installing & Repairing Electrical, Electronic & Related Equipment, N.E.C.	6641	821	.00	1.41[4]	212.7	(22.4, 812.6)
*8335	Welders & Flame Cutters	165428	20381	7.00	34.90	211.0	(155.9, 279.8)
*9318	Labourers, Material Handling	18841	2180	2.00	3.42	181.5	(55.2, 443.2)
*8513	Motor Vehicle Assemblers, N.E.C.	137180	15853	3.00	24.82	180.9	(125.6, 253.0)
*8578	Labourers: Assembling & Repairing Rubber, Plastic & Related Products	17219	1924	2.00	2.87	166.9	(43.6, 439.6)
*8137	Moulders, Coremakers & Metal Casters	27346	3045	4.00	4.53	165.5	(61.4, 361.3)
*8333	Sheet Metal Workers	56373	6225	1.00	9.15	162.2	(85.2, 282.0)
8793	Structural Metal Erectors	4416	474	2.00	.67	151.6	(2.2, 951.0)
6198	Labourers, Services	2644	280	.00	.39	146.7	(0.0, 1405.3)

TABLE 3.3.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Manufacturing

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8571	Bonders & Cementers: Rubber, Plastic & Related Products	14815	1562	.00	2.15	145.2	(28.2, 440.2)
8598	Labourers: Product Fabricating, Assembling & Repairing, N.E.C.	5981	628	1.00	.86	143.8	(4.9, 755.2)
*9313	Longshoremen, Stevedores & Freight Handlers	28607	2979	2.00	4.03	140.9	(48.4, 321.5)
*8148	Labourers, Metal Processing	27706	2881	8.00	3.89	140.4	(47.0, 325.0)
*9175	Truck Drivers	96943	9985	16.00	13.31	137.3	(81.8, 217.1)
8260	Foremen, Textile Processing	7663	91	1.00	.01	130.5	(6.7, 619.3)
9113	Air Transport Operating Support	30	3	.00	.00[4]	127.9	(0.0,99913.8)
8160	Foremen: Chemicals, Petroleum, Rubber & Plastic Materials Processing	16136	281	2.00	.03	123.9	(22.0, 390.3)
8229	Food & Beverage Processors, N.E.C.	14214	1400	.00	1.75	123.3	(18.3, 416.5)
*8733	Construction Electricians & Repairmen	24221	2348	4.00	2.87	118.7	(31.0, 312.5)
8795	Glaziers	2524	244	2.00	.30	117.9	(0.0, 1409.1)
*8179	Chemicals, Petroleum, Rubber, Plastic & Related Materials Processors, N.E.C.	46308	4449	3.00	5.38	116.2	(47.7, 238.0)
*8581	Motor Vehicle Mechanics & Repairmen	32755	3063	1.00	3.57	108.9	(34.3, 261.3)
8353	Wood Sawers & Related, Except Sawmill	7814	729	1.00	.85	108.2	(3.6, 575.9)

TABLE 3.3.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Manufacturing

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
*8130	Foremen, Metal Processing & Related	27797	420	3.00	.04	107.9	(29.4, 279.0)
8131	Metal Smelting, Converting & Refining Furnacemen	17579	1624	5.00	1.86	105.7	(17.1, 364.3)
6121	Chefs & Cooks	3095	282	.00	.32	102.3	(0.0, 1160.7)
2169	Other in Architecture & Engineering, N.E.C.	871	76	.00	.08	92.2	(0.0, 3616.9)
6162	Launderers & Dry Cleaners	511	43	.00	.04	84.5	(0.0, 6015.7)
* 8579	Assembling & Repairing: Rubber & Related Products, N.E.C.	27587	2320	1.00	2.33	84.4	(18.0, 246.0)
8798	Labourers, Other Construction Trades	7663	637	3.00	.63	82.1	(1.0, 539.2)
8525	Business Machines Assemblers, N.E.C.	4027	332	.00	.32[4]	80.5	(0.0, 892.1)
8331	Forgers	11088	907	1.00	.88	79.0	(2.9, 410.3)
* 6191	Janitors, Charworkers & Cleaners	64368	5243	5.00	5.03	78.2	(30.9, 164.0)
2144	Electrical Engineers	26235	64	2.00	.00	76.2	(13.5, 240.1)
8146	Inspectors, Testers, Graders, Samplers Metal Processing	13342	202	1.00	.02	75.0	(3.8, 355.7)
* 8215	Slaughterers, Meat Cutters, Canners, Curers & Packers	46517	3703	.00	3.44[4]	74.0	(22.6, 180.1)
1136	Personnel & Related Managers	13643	4	1.00	.00	73.3	(3.8, 347.9)
*8313	Machinists & Machine Tool Setters	112417	8847	3.00	8.09	72.0	(36.0, 129.5)

TABLE 3.3.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Manufacturing

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8791	Pipefitters, Plumbers & Related	19983	1555	4.00	1.40	70.0	(7.3, 269.3)
8515	Aircraft Assemblers, N.E.C.	22027	1714	.00	1.54[4]	70.0	(8.6, 254.2)
8261	Textile Fibre Preparers	2554	198	.00	.18[4]	69.4	(0.0,1306.8)
7719	Mining & Quarrying, Including Oil & Gas Field, N.E.C.	1202	93	.00	.08	69.1	(0.0,2620.9)
8523	Industrial, Farm & Construction Machinery Assemblers, N.E.C.	23920	1805	2.00	1.56	65.1	(8.1, 235.3)
8799	Other Construction Trades, N.E.C.	8235	613	2.00	.52	63.0	(0.3, 478.8)
*1149	Other Managers & Administrators, N.E.C.	49524	197	3.00	.00	60.6	(16.5, 156.6)
9519	Printing & Related, N.E.C.	26174	1914	.00	1.58[4]	60.3	(7.7, 216.3)
8161	Mixers & Blenders, Chemicals	21667	1538	.00	1.22[4]	56.2	(4.5, 235.3)
8225	Sugar Processors	1023	71	.00	.05[4]	53.2	(0.0,3023.6)
8298	Labourers, Other Processing	1143	78	.00	.06[4]	51.1	(0.0,2722.9)

*Occupations with an upper Confidence Limit not exceeding three times the estimated rate and affording rates based on adequate numbers.

[1]1979-1984.

[2]The overall fatal claim rate for Manufacturing is 48.4 $10^{-6}y^{-1}$.

[3]Rates and Poisson Confidence Intervals are based on the underlined number of fatal claims (either actual or predicted).

[4]These occupations were not included in the correlation because the number of non-fatal claims are considered to be disproportionately high. However, in the absence of actual fatal claims, the predicted value is given on the basis of the regression equation; this value should be regarded as relatively less reliable.

TABLE 3.4.1a

Distribution of Fatal Risk for Occupations in Construction

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF OCCUPATIONS[2]	PERCENTAGE OF OCCUPATIONS
Occupations with Risk at least twenty times the Industry Average	11	5.0
Occupations with Risk at least ten times the Industry Average	20	9.2
Occupations with Risk at least five times the Industry Average	26	11.9
Occupations with Risk at least two times the Industry Average	32	14.7
Total Number of Occupations with Risk above the Industry Average	51	23.4
Total Number of Occupations with Risk at or below the Industry Average	167	76.6

[1] Industry Average Fatal Risk = 169.3 $10^{-6}y^{-1}$

[2] Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.4.1b

Distribution of Fatal Risk for Workers in Construction

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF WORKERS[2]	PERCENTAGE OF WORKERS
Workers in Occupations with Risk at least twenty times the Industry Average	3847	0.3
Workers in Occupations with Risk at least ten times the Industry Average	6851	0.5
Workers in Occupations with Risk at least five times the Industry Average	9945	0.8
Workers in Occupations with Risk at least two times the Industry Average	20583	1.6
Total Number of Workers in Occupations with Risk above the Industry Average	229370	18.4
Total Number of Workers in Occupations with Risk at or below the Industry Average	1018364	81.6

[1] Industry Average Fatal Risk = $169.3\ 10^{-6} y^{-1}$

[2] Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.4.2

Above Average Fatal Claim Rates for Non-Radiological Occupations

Construction

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
6133	Chambermaids & Housemen	30	34	.00	1.30[4]	43374.1	(3942.2, 174137.2)
6149	Personal Service, N.E.C.	30	28	.00	.82[4]	27218.2	(809.0, 148351.9)
6125	Waiters, Hostesses & Stewards, Food	90	64	.00	1.28	14171.7	(1255.9, 57695.2)
8548	Labourers: Fabricating, Assembling & Repairing, Wood Products	60	34	.00	.49	8217.8	(0.0, 64850.0)
*8589	Mechanics & Repairmen, Except Electrical, N.E.C.	1714	939	1.00	12.99	7577.8	(4481.3, 12053.5)
8151	Furnace & Kiln Men: Clay, Glass, Stone	210	103	.00	1.22[4]	5811.1	(466.5, 24274.3)
8528	Labourers, Metal Products Assembling, N.E.C.	30	14	.00	.15	5156.9	(0.0, 109393.2)
7717	Mining & Quarrying: Cutting, Handling & Loading	421	78	2.00	.24	4750.6	(844.0, 14959.7)
*8529	Other Fabricating & Assembling Metal Products, N.E.C.	962	403	1.00	3.83	3980.0	(1318.4, 9273.0)
9179	Motor Transport Operators, N.E.C.	270	2	1.00	.00	3703.7	(189.8, 17577.2)
1142	Service Managers	331	0	1.00[5]	.00	3021.1	(154.8, 14337.9)

TABLE 3.4.2

Above Average Fatal Claim Rates for Non-Radiological Occupations

Construction

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
7197	Farm Machinery & Custom Operators	331	10	1.00	.00	3021.1	(154.8, 14337.9)
8738	Power, Lighting & Wire Communication Erecting & & Repairing Labourers	451	162	1.00	1.24	2751.6	(228.1, 11373.2)
7719	Mining & Quarrying, including Oil & Gas Field, N.E.C.	90	28	.00	.18	1948.8	(0.0, 37083.0)
9319	Materials Handlers & Related, N.E.C.	391	120	.00	.74	1886.2	(40.0, 11041.6)
6121	Chefs & Cooks	240	73	.00	.44	1846.0	(0.0, 15848.9)
7518	Labourers, Forestry, Logging	119	36	.00	.22[4]	1822.2	(0.0, 28664.7)
7182	Farm Workers	691	207	.00	1.23	1779.7	(145.3, 7400.1)
7513	Timber Cutters & Related	360	106	1.00	.61	1707.6	(17.1, 11382.2)
8334	Metalworking - Machine Operators, N.E.C.	811	229	.00	1.25	1544.3	(129.9, 6344.2)
2131	Agriculturalists & Related Scientists	60	15	.00	.07[4]	1153.0	(0.0, 52188.3)
8148	Labourers, Metal Processing	90	22	.00	.10	1092.5	(0.0, 35423.2)
8731	Electrical Power Linemen & Related	1923	80	2.00	.03	1040.0	(184.8, 3275.1)
8571	Bonders & Cementers: Rubber, Plastic & Related Products	60	14	.00	.06	977.0	(0.0, 51871.1)
8159	Clay, Glass & Stone Processing, N.E.C.	150	33	1.00	.13	848.4	(0.0, 21629.7)
2169	Other in Architecture & Engineering, N.E.C.	1081	237	.00	.91	841.4	(33.7, 4254.4)

TABLE 3.4.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Construction

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
*1130	General Managers & Senior Officials	7393	81	4.00	.00	541.1	(184.8, 1238.4)
8549	Fabricating, Assembling & Repairing, Wood Products, N.E.C.	331	57	.00	.16	471.3	(0.0, 9971.0)
8337	Boilermakers, Platers & Structural Metal Workers	1684	285	1.00	.76	452.0	(10.5, 2583.6)
8539	Assembling, Installing & Repairing, Electrical & Electronic Equipment, N.E.C.	30	5	.00	.01	435.7	(0.0,100542.6)
8537	Radio & Television Service Repairmen	119	19	.00	.05[4]	393.1	(0.0, 25993.1)
*8786	Insulaters, Construction	12681	636	4.00	.31	315.4	(107.7, 722.0)
9318	Labourers, Material Handling	601	87	.00	.19	310.7	(0.0, 5583.9)
8393	Filers, Grinders, Buffers, Cleaners & Polishers, N.E.C.	180	26	.00	.06	309.1	(0.0, 17290.4)
*8798	Labourers, Other Construction Trades	136489	18894	47.00	38.09	279.1	(209.1, 365.7)
*8793	Structural Metal Erectors	8624	1162	4.00	2.26	261.6	(53.8, 775.1)
8143	Platers, Metal Sprayers & Related	60	8	.00	.02[4]	255.0	(0.0, 50593.1)
8178	Labourers: Chemical, Petroleum, Rubber, Plastics Materials Processing, N.E.C.	30	4	.00	.01	255.0	(0.0,100542.6)

TABLE 34 .2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Construction

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8238	Labourers, Wood Processing, Except Pulp	30	4	.00	.01	255.0	(0.0, 100542.6)
8513	Motor Vehicle Assemblers, N.E.C.	150	20	.00	.04	255.0	(0.0, 20493.6)
8562	Upholsteres	30	4	.00	.01[4]	255.0	(0.0, 100542.6)
9159	Water Transport Operators, N.E.C.	30	4	.00	.01[4]	255.0	(0.0, 100542.6)
8379	Clay, Glass & Stone Machining, N.E.C.	781	102	.00	.19	242.7	(0.0, 4297.0)
8581	Motor Vehicle Mechanics & Repairmen	2975	383	.00	.70	234.5	(4.1, 1428.6)
*8711	Excavators, Graders & Related	39937	958	9.00	.17	225.4	(117.5, 393.3)
8719	Excavating, Grading & Paving, N.E.C.	4447	528	3.00	.86	193.1	(6.6, 1015.7)
8315	Machine Tool Operators	962	111	.00	.17	180.3	(0.0, 3450.1)
8311	Tool & Die Makers	270	31	.00	.05	173.1	(0.0, 11456.2)
6199	Other Service, N.E.C.	210	24	.00	.04[4]	176.2	(0.0, 14638.3)
9317	Packaging, N.E.C.	300	34	.00	.05[4]	172.7	(0.0, 10310.6)

*Occupations with an upper Confidence Limit not exceeding three times the estimated rate and affording rates based on adequate numbers.

[1]1979-1984.

[2]The overall fatal claim rate for Construction is 169.3 $10^{-6}y^{-1}$.

[3]Rates and Poisson Confidence Intervals are based on the underlined number of fatal claims (either actual or predicted).

[4]These occupations were not included in the correlation because the number of non-fatal claims are considered to be disproportionately high. However, in the absence of actual fatal claims, the predicted value is given on the basis of the regression equation; this value should be regarded as relatively less reliable.

[5]For the absence of non-fatal claims the actual value of fatal claims is given.

TABLE 3.5.1a

Distribution of Fatal Risk for Occupations in Transportation, Communication & Utilities

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF OCCUPATIONS[2]	PERCENTAGE OF OCCUPATIONS
Occupations with Risk at least twenty times the Industry Average	4	1.5
Occupations with Risk at least ten times the Industry Average	9	3.5
Occupations with Risk at least five times the Industry Average	13	5.0
Occupations with Risk at least two times the Industry Average	27	10.4
Total Number of Occupations with Risk above the Industry Average	44	17.0
Total Number of Occupations with Risk at or below the Industry Average	215	83.0

[1] Industry Average Fatal Risk = $118.3\ 10^{-6} y^{-1}$

[2] Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.5.1b

Distribution of Fatal Risk for Workers in Transportation, Communication & Utilities

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF WORKERS[2]	PERCENTAGE OF WORKERS
Workers in Occupations with Risk at least twenty times the Industry Average	930	0.1
Workers in Occupations with Risk at least ten times the Industry Average	16792	1.0
Workers in Occupations with Risk at least five times the Industry Average	60545	3.5
Workers in Occupations with Risk at least two times the Industry Average	315162	18.1
Total Number of Workers in Occupations with Risk above the Industry Average	477998	27.4
Total Number of Workers in Occupations with Risk at or below the Industry Average	1265099	72.6

[1] Industry Average Fatal Risk = $118.8\ 10^{-6} y^{-1}$

[2] Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.5.2

Above Average Fatal Claim Rates for Non-Radiological Occupations

Transportation, Communication & Utilities

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8529	Other Fabricating & Assembling, Metal Products, N.E.C.	90	47	.00	.61	6755.0	(68.5, 45528.6)
8228	Labourers, Food & Beverage Processing	180	80	.00	.83	4587.1	(141.7, 24817.4)
8515	Aircraft Assemblers, N.E.C.	119	48	.00	.43[4]	3634.4	(0.0, 31816.7)
8571	Bonders & Cementers: Rubber, Plastic & Related Products	150	50	.00	.34	2299.8	(0.0, 24188.2)
*9319	Materials Handlers & Related, N.E.C.	2583	752	.00	4.29	1661.9	(594.7, 3698.7)
8395	Patternmakers & Mould Makers, N.E.C.	119	34	.00	.19[4]	1588.6	(0.0, 28201.2)
8211	Flour & Grain Millers	630	111	1.00	.31	1587.3	(81.3, 7533.1)
*9111	Pilots, Navigators & Flight Engineers	12380	64	16.00	.00	1292.4	(810.6, 1963.3)
*8589	Mechanics & Repairmen, Except Electrical, N.E.C.	5229	1316	2.00	6.13	1171.6	(516.0, 2298.1)
6112	Policemen & Detectives, Government	60	15	.00	.07	1153.0	(0.0, 52188.3)
*9313	Longshoremen, Stevedores & Freight Handlers	29479	6677	5.00	26.82	909.8	(641.4, 1255.9)
*8335	Welders & Flame Cutters	8985	1989	3.00	7.74	861.1	(422.6, 1569.9)
8393	Filers, Grinders, Buffers, Cleaners & Polishers, N.E.C.	210	37	1.00	.10	497.9	(0.0, 15181.4)

TABLE 3.5.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Transportation, Communication & Other Utilities

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
9153	Engineering Officers, Ship	2103	118	1.00	.07	475.5	(24.4, 2256.7)
9155	Deck Crew, Ship	4238	473	2.00	.71	471.9	(83.8, 1486.1)
6135	Sleeping Car and Baggage Porters & Bellmen	1023	164	.00	.41[4]	396.9	(0.0, 3666.7)
*8731	Electrical Power Linemen & Related	23049	1394	9.00	.88	390.5	(203.7, 681.5)
*9133	Conductors & Brakemen, Railway	18421	1046	7.00	.61	380.0	(178.3, 713.9)
2797	Instructors & Training Officers, N.E.C.	5710	10	2.00	.00	350.3	(62.2, 1103.0)
8590	Foremen: Product Assembling & Repairing, N.E.C.	119	18	.00	.04[4]	345.2	(0.0, 25832.2)
8334	Metalworking - Machine Operators, N.E.C.	60	9	.00	.02	338.4	(0.0, 50593.1)
8782	Brick & Stone Masons & Tile Setters	180	27	.00	.06	338.4	(0.0, 17290.4)
*9175	Truck Drivers	175734	24014	77.00	47.54	270.5	(209.4, 344.5)
*9170	Foremen, Motor Transport Operating	19503	465	5.00	.08	256.4	(101.0, 539.1)
5193	Driver - Salesmen	270	36	.00	.07	255.0	(0.0, 11597.4)
9151	Deck Officers	3997	72	1.00	.01	250.2	(12.8, 1187.4)
9130	Foremen, Rail Transport Operating	8834	177	2.00	.02	226.4	(40.2, 712.9)
2147	Mechanical Engineers	4447	33	1.00	.00	224.9	(11.5, 1067.2)
*4172	Mail Carriers	52077	6464	.00	11.19[4]	214.8	(121.2, 354.2)

TABLE 3.5.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations
Transportation, Communication & Other Utilities

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
*9131	Locomotive Engineers & Firemen	14514	318	3.00	.05	206.3	(56.2, 533.3)
8781	Carpenters & Related	5378	650	.00	1.08	201.5	(12.4, 906.5)
9135	Rail Transport Operating Support	11390	303	2.00	.06	175.6	(31.2, 552.9)
*8581	Motor Vehicle Mechanics & Repairmen	28969	3239	3.00	4.84	167.2	(64.5, 355.6)
6121	Chefs & Cooks	2313	248	1.00	.35	151.2	(0.0, 1575.7)
9311	Hoist Operators, N.E.C.	2284	241	2.00	.33	145.5	(0.0, 1580.7)
8337	Boilermakers, Platers & Structural Metal Workers	840	88	.00	.12	143.0	(0.0, 3840.1)
8313	Machinists & Machine Tool Setters	2583	270	.00	.37	142.2	(0.0, 1424.8)
5177	Business Services Salesmen	7362	31	1.00	.00	135.8	(7.0, 644.6)
8333	Sheet Metal Workers	391	40	.00	.05	135.0	(0.0, 7910.9)
2143	Civil Engineers	7573	37	1.00	.00	132.0	(6.8, 626.7)
8331	Forgers	119	12	.00	.02	130.5	(0.0,25509.1)
9315	Material Handling Equipment Operators, N.E.C.	9886	979	.00	1.23	124.9	(10.2, 517.2)
8738	Power, Lighting & Wire Communication Erecting & Repairing Labourers	3846	379	.00	.47	123.4	(0.0, 1002.6)

*Occupations with an upper Confidence Limit not exceeding three times the estimated rate and affording rates based on adequate numbers.

[1] 1979-1984.

[2] The overall fatal claim rate for Transportation, Communication & Other Utilities is 118.8 $10^{-6}y^{-1}$.

[3] Rates and Poisson Confidence Intervals are based on the underlined number of fatal claims (either actual or predicted).

[4] These occupations were not included in the correlation because the number of non-fatal claims are considered to be disproportionately high. However, in the absence of actual fatal claims, the predicted value is given on the basis of the regression equation; this value should be regarded as relatively less reliable.

TABLE 3.6.1a

Distribution of Fatal Risk for Occupations in Trade

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF OCCUPATIONS[2]	PERCENTAGE OF OCCUPATIONS
Occupations with Risk at least twenty times the Industry Average	18	5.6
Occupations with Risk at least ten times the Industry Average	26	8.1
Occupations with Risk at least five times the Industry Average	42	13.0
Occupations with Risk at least two times the Industry Average	69	21.4
Total Number of Occupations with Risk above the Industry Average	92	28.6
Total Number of Occupations with Risk at or below the Industry Average	230	71.4

[1]Industry Average Fatal Risk = $27.5\ 10^{-6} y^{-1}$

[2]Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.6.1b

Distribution of Fatal Risk for Workers in Trade

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF WORKERS[2]	PERCENTAGE OF WORKERS
Workers in Occupations with Risk at least twenty times the Industry Average	60518	1.5
Workers in Occupations with Risk at least ten times the Industry Average	78245	2.0
Workers in Occupations with Risk at least five times the Industry Average	173385	4.4
Workers in Occupations with Risk at least two times the Industry Average	651481	16.4
Total Number of Workers in Occupations with Risk above the Industry Average	839564	21.1
Total Number of Workers in Occupations with Risk at or below the Industry Average	3136279	78.9

[1]Industry Average Fatal Risk = $27.5\ 10^{-6}{}_{y}{}^{-1}$

[2]Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.6.2

Above Average Fatal Claim Rates for Non-Radiological Occupations

Trade

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8158	Labourers: Clay, Glass & Stone Processing & Forming	180	89	.00	1.07	5924.5	(358.9, 26995.0)
*8578	Labourers: Assembling & Repairing Rubber, Plastic & Related Products	451	213	.00	2.39	5307.1	(1157.8, 15242.3)
8153	Forming: Clay, Glass & Stone Processing & Forming	210	8	1.00	.00	4761.9	(244.0, 22599.2)
8178	Coaters & Calenderers, Chemicals & Related Materials	180	65	.00	.50	2786.8	(0.0, 21713.1)
*8334	Metalworking - Machine Operators, N.E.C.	2583	879	.00	6.24	2416.8	(1072.9, 4708.1)
8173	Coaters & Grinders, Chemicals & Related Materials	90	27	.00	.16[4]	1785.9	(0.0, 36671.1)
*9319	Materials Handlers & Related, N.E.C.	4657	1362	.00	7.82	1680.1	(827.5, 3050.8)
2159	Architects & Engineers, N.E.C.	601	2	1.00	.00	1663.9	(85.3, 7896.6)
*8513	Motor Vehicle Assemblers, N.E.C.	3005	791	.00	3.92	1304.9	(439.2, 3010.0)
*8589	Mechanics & Repairmen, Except Electrical, N.E.C.	12351	3010	.00	13.40	1084.5	(647.5, 1713.3)
*9313	Longshoremen, Stevedores & Freight Handlers	29780	7207	4.00	31.76	1066.5	(775.4, 1434.1)
8798	Labourers, Other Construction Trades	2374	521	1.00	2.00	843.4	(149.7, 2652.9)

TABLE 3.6.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Trade

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8529	Other Fabricating & Assembling, Metal Products, N.E.C.	2042	402	.00	1.33	649.8	(61.9, 2581.5)
8579	Assembling & Repairing: Rubber, Plastic & Related Products, N.E.C.	962	186	.00	.60	622.3	(5.9, 4241.7)
*8538	Labourers: Assembling, Installing & Repairing Electrical, Electronic & Related Equipment, N.E.C.	331	62	.00	.19[4]	576.7	(0.0, 10138.8)
8528	Labourers, Metal Products Assembling, N.E.C.	391	73	.00	.22	572.2	(0.0, 8724.0)
8598	Labourers: Product Fabricating, Assembling & Repairing, N.E.C.	150	28	.00	.09	571.9	(0.0, 21128.1)
*8335	Welders & Flame Cutters	10788	1972	1.00	5.87	543.9	(234.3, 1082.1)
8359	Wood Machining, N.E.C.	90	16	.00	.05[4]	508.7	(0.0, 34368.6)
8785	Painters, Paperhangers & Related	1321	229	.00	.63	478.9	(5.5, 3127.7)
8273	Textile Bleachers & Dyers	30	5	.00	.01[4]	435.7	(0.0,100542.6)
8228	Labourers, Food & Beverage Processing	3305	546	3.00	1.41	426.6	(45.0, 1632.9)
8515	Aircraft Assemblers, N.E.C.	150	24	.00	.06[4]	395.1	(0.0, 20748.4)
8549	Fabricating, Assembling & Repairing, Wood Products	1081	166	.00	.39	358.0	(0.0, 3437.3)
8238	Labourers, Wood Processing, Except Pulp & Papermaking	962	138	1.00	.29	304.0	(0.0, 3678.2)

TABLE 3.6.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Trade

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8539	Assembling, Installing & Repairing Electrical & Electronic Equipment, N.E.C.	691	91	.00	.17	247.6	(0.0, 4803.1)
8523	Industrial, Farm & Construction Machinery Assemblers, N.E.C.	1954	257	.00	.48	246.8	(0.0, 1982.4)
8393	Filers, Grinders, Buffers, Cleaners & Polishers, N.E.C.	1413	185	.00	.34	244.1	(0.0, 2567.8)
8571	Bonders & Cementers: Rubber, Plastic & Related Products	6370	810	1.00	1.45	227.6	(25.2, 857.0)
8568	Labourers: Assembling & Repairing, Textile, Fur & Leather Products	300	38	.00	.07[4]	225.5	(0.0, 10437.7)
8171	Crushers & Grinders, Chemicals & Related Materials	150	18	.00	.03[4]	198.1	(0.0, 20365.6)
8179	Chemicals, Petroleum, Rubber, Plastic & Related Materials Processors, N.E.C.	1743	209	1.00	.34	197.7	(0.0, 2081.6)
*8215	Slaughterers, Meat Cutters, Canners, Curers & Packers	35821	4243	.00	6.88[4]	192.0	(89.4, 362.8)
8531	Electrical Equipment Assemblers	3696	434	.00	.69	188.0	(3.1, 1145.4)
*1130	General Managers & Senior Officers	23740	107	4.00	.00	168.5	(57.5, 385.7)
9318	Labourers, Material Handling	13523	1493	1.00	2.19	162.2	(32.1, 486.7)
8159	Clay, Glass & Stone Processing, N.E.C.	391	43	.00	.06	160.6	(0.0, 7959.8)

TABLE 3.6.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Trade

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8733	Electrical & Related Equipment Installers & Repairers, N.E.C.	1653	180	.00	.26	156.9	(0.0, 2107.7)
8355	Planers, Turners, Shapers & Related Wood Machinists	451	48	.00	.07[4]	148.5	(0.0, 6943.0)
6165	Pressing	630	67	.00	.09[4]	148.2	(0.0, 5030.5)
8333	Sheet Metal Workers	2614	276	.00	.38	145.7	(0.0, 1414.7)
*9175	Truck Drivers	120833	12252	26.00	15.97	132.2	(82.8, 200.9)
6130	Supervisors: Lodging & Other Accommodation	119	12	.00	.02	130.5	(0.0, 25509.1)
8278	Labourers, Other Processing	150	15	.00	.02[4]	127.9	(0.0, 20237.2)
8331	Forgers	270	27	.00	.03	127.9	(0.0, 11314.2)
8575	Cutters & Finishers: Rubber, Plastic & Related Products	270	27	.00	.03[4]	127.9	(0.0, 11314.2)
8148	Labourers, Metal Processing	482	45	.00	.05	108.4	(0.0, 6417.4)
8131	Metal Smelting, Converting & Refining Furnacemen	119	11	.00	.01	105.9	(0.0, 25346.9)
7513	Timber Cutters & Related	391	35	.00	.04	98.0	(0.0, 7862.0)
2169	Other in Architecture & Engineering, N.E.C.	90	8	.00	.01	96.4	(0.0, 33514.2)
8137	Moulders, Coremakers & Metal Casters	270	24	.00	.03	96.4	(0.0, 11314.2)
8313	Machinists & Machine Tool Setters	5649	493	.00	.52	92.2	(0.4, 698.0)
8227	Beverage Processors	360	31	.00	.03[4]	89.3	(0.0, 8485.7)

TABLE 3.6.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Trade

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8357	Wood Sanders	60	5	.00	.00[4]	82.6	(0.0, 49956.9)
7182	Farm Workers	4238	348	.00	.34	79.7	(0.0, 856.1)
6129	Food & Beverage Preparation & Related Service, N.E.C.	4146	339	.00	.33	78.9	(0.0, 870.8)
*8581	Motor Vehicle Mechanics & Repairmen	199385	16164	3.00	15.41	77.3	(48.0, 118.3)
8239	Metal Shapers, Except Machining, N.E.C.	300	24	.00	.02[4]	74.8	(0.0, 10118.6)
8573	Moulders: Rubber, Plastic & Related Products	601	48	.00	.04[4]	74.6	(0.0, 5114.9)
9315	Material Handling Equipment Operators, N.E.C.	15476	1219	1.00	1.12	72.1	(4.8, 319.2)
8319	Metal Machining, N.E.C.	360	28	.00	.03[4]	70.0	(0.0, 8485.7)
8379	Clay, Glass & Stone Machining, N.E.C.	840	63	.00	.05	64.1	(0.0, 3682.3)
8229	Food & Beverage Processors, N.E.C.	962	72	1.00	.06	63.8	(0.0, 3235.2)
5141	Street Vendors & Door-to-Door Salesmen	15716	12	1.00	.00	63.6	(3.3, 302.0)
8570	Foremen: Fabricating, Assembling & Repairing Rubber, Plastic & Related Products	541	40	.00	.03[4]	62.0	(0.0, 5646.6)
8784	Plasterers & Related	180	13	.00	.01	58.6	(0.0, 16757.1)
*5133	Commercial Travellers	102862	150	6.00	.00	58.3	(25.4, 115.2)

TABLE 3.6.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Trade

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
9311	Hoist Operators, N.E.C.	3426	245	1.00	.20	57.2	(0.0, 984.9)
8353	Wood Sawers & Related, Except Sawmill	1263	88	.00	.07	53.7	(0.0, 2479.3)
1149	Other Managers & Administrators, N.E.C.	39937	209	2.00	.00	50.1	(8.9, 157.7)
8584	Industrial, Farm & Construction Machinery Mechanics & Repairmen	25513	1712	2.00	1.25	49.1	(4.1, 201.7)
4172	Mail Carriers	60	4	.00	.00[4]	48.3	(0.0,49956.9)
6123	Bartenders	60	4	.00	.00[4]	48.3	(0.0,49956.9)
8258	Labourers, Pulp & Papermaking	210	14	.00	.01[4]	48.3	(0.0,14363.2)
5193	Travel Clerks, Ticket, Station to Freight Agents	7482	477	2.00	.32	43.4	(0.0, 480.1)
4159	Material Recording, Scheduling to Distributing, N.E.C.	14875	911	.00	.59[4]	39.4	(0.3, 273.2)
8793	Structural Metal Erectors	511	31	.00	.02	38.5	(0.0, 5940.5)
8781	Carpenters & Related	6070	360	.00	.22	36.5	(0.0, 562.0)
9317	Packaging, N.E.C.	49582	2940	.00	1.81[4]	36.5	(5.7, 121.2)
8551	Patternmakers, Markers & Cutters: Textile, Fur & Leather Products	2195	128	.00	.08[4]	35.0	(0.0, 1435.2)
8161	Mixers & Blenders, Chemicals	1622	94	.00	.06[4]	34.5	(0.0, 1918.8)
8151	Furnace & Kiln Men: Clay, Glass & Stone	451	26	.00	.02[4]	34.1	(0.0, 6730.8)

TABLE 3.6.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Trade

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8799	Other Construction Trades, N.E.C.	8325	466	.00	.26	31.8	(0.0, 418.5)
8213	Bakers, Confectionery Makers & Related	13042	730	.00	.41[4]	31.8	(0.0, 287.6)
8315	Machine Tool Operators	3275	183	.00	.10	31.6	(0.0, 973.5)
6121	Chefs & Cooks	8684	484	.00	.27	31.4	(0.0, 403.3)
6149	Funeral Directors, Embalmers & Related	360	20	.00	.01[4]	31.2	(0.0, 8378.5)
8337	Boilermakers, Platers & Structural Metal Workers	90	5	.00	.00	31.2	(0.0, 33304.6)
8540	Foremen: Assembling & Repairing, Wood Products	421	23	.00	.01	30.0	(0.0, 7164.6)
8795	Glaziers	3905	211	.00	.11	29.2	(0.0, 821.2)
8787	Roofers, Waterproofers & Related	150	8	.00	.00	28.3	(0.0, 19982.8)

*Occupations with an upper Confidence Limit not exceeding three times the estimated rate and affording rates based on adequate numbers.

[1]1979-1984.

[2]The overall fatal claim rate for Trade is 27.5 $10^{-6}y^{-1}$.

[3]Rates and Poisson Confidence Intervals are based on the underlined number of fatal claims (either actual or predicted).

[4]These occupations were not included in the correlation because the number of non-fatal claims are considered to be disproportionately high. However, in the absence of actual fatal claims, the predicted value is given on the basis of the regression equation; this value should be regarded as relatively less reliable.

TABLE 3.7.1a

Distribution of Fatal Risk for Occupations in Community, Business and Personal Services

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF OCCUPATIONS[2]	PERCENTAGE OF OCCUPATIONS
Occupations with Risk at least twenty times the Industry Average	11	3.4
Occupations with Risk at least ten times the Industry Average	21	6.4
Occupations with Risk at least five times the Industry Average	28	8.5
Occupations with Risk at least two times the Industry Average	48	14.6
Total Number of Occupations with Risk above the Industry Average	59	18.0
Total Number of Occupations with Risk at or below the Industry Average	269	82.0

[1] Industry Average Fatal Risk = $12.1\ 10^{-6} y^{-1}$

[2] Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.7.1b

Distribution of Fatal Risk for Workers in Community, Business and Personal Services

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF WORKERS[2]	PERCENTAGE OF WORKERS
Workers in Occupations with Risk at least twenty times the Industry Average	10246	0.1
Workers in Occupations with Risk at least ten times the Industry Average	70344	1.0
Workers in Occupations with Risk at least five times the Industry Average	237246	3.5
Workers in Occupations with Risk at least two times the Industry Average	669886	9.8
Total Number of Workers in Occupations with Risk above the Industry Average	1534077	22.5
Total Number of Workers in Occupations with Risk at or below the Industry Average	5297797	77.5

[1] Industry Average Fatal Risk = $12.1\ 10^{-6}\ y^{-1}$

[2] Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.7.2

Above Average Fatal Claim Rates for Non-Radiological Occupations

Community, Business and Personal Service

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8786	Insulaters, Construction	300	6	1.00	.00	3333.3	(170.8, 15819.5)
7719	Mining & Quarrying Including Oil and Gas Field, N.E.C.	30	11	.00	.09	2890.8	(0.0, 105640.7)
9111	Pilots, Navigators & Flight Engineers	391	2	1.00	.00	2557.5	(131.1, 12137.7)
8529	Other Fabricating & Assembling, Metal Products, N.E.C.	270	91	.00	.64	2361.6	(29.2, 15365.3)
7513	Timber Cutters & Related	180	44	.00	.20	1092.5	(0.0, 18746.5)
*8798	Labourers, Other Construction Trades	3726	830	2.00	3.26	874.1	(255.8, 2180.6)
8793	Structural Metal Erectors	541	103	.00	.32	599.7	(0.0, 6640.3)
8568	Labourers: Assembling & Repairing, Textile, Fur & Leather Products	60	10	.00	.03[4]	435.7	(0.0, 50913.9)
9313	Longshoremen, Stevedores & Freight Handlers	3666	611	.00	1.60	435.7	(56.7, 1552.4)
8719	Excavating, Grading & Paving, N.E.C.	180	26	.00	.06	309.1	(0.0, 17290.4)
9319	Materials Handlers & Related, N.E.C.	902	125	.00	.25	279.8	(0.0, 3842.5)
8215	Slaughterers, Meat Cutters, Canners, Curers & Packers	992	125	.00	.22[4]	222.7	(0.0, 3438.6)
8228	Labourers, Food & Beverage Processing	630	78	.00	.13	213.5	(0.0, 5149.9)
8333	Sheet Metal Workers	752	84	.00	.13	166.8	(0.0, 4314.4)
*9175	Truck Drivers	40808	4333	11.00	6.03	147.7	(64.5, 291.2)

TABLE 3.7.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Community, Business and Personal Service

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8337	Boilermakers, Platers & Structural Metal Workers	541	57	.00	.08	144.9	(0.0, 5823.1)
8334	Metalworking - Machine Operators, N.E.C.	360	37	.00	.05	136.6	(0.0, 8592.1)
8589	Mechanics & Repairmen, Except Electrical, N.E.C.	7451	750	.00	.97	129.9	(6.2, 630.4)
8217	Fish Canners, Curers & Packers	90	9	.00	.01[4]	127.9	(0.0, 33514.2)
8784	Plasterers & Related	541	54	.00	.07	127.3	(0.0, 5788.0)
1175	Purchasing Officers & Buyers, Except Wholesale & Retail Trade	7933	12	1.00	.00	126.1	(6.5, 598.2)
8733	Construction Electricians & Repairmen	4779	460	1.00	.56	116.7	(0.8, 839.5)
8787	Roofers, Waterproofers & Related	331	30	1.00	.03	101.0	(0.0, 9229.1)
*3135	Nursing Aides & Orderlies	143191	12713	.00	13.76	96.1	(57.8, 150.8)
8791	Pipefitters, Plumbers & Related	4958	422	.00	.43	86.9	(0.0, 763.7)
2339	Others in Social Work & Related, N.E.C.	11600	16	1.00	.00	86.2	(4.4, 409.1)
9315	Material Handling Equipment Operators, N.E.C.	811	65	.00	.06	75.2	(0.0, 3837.6)
8531	Electrical Equipment Assemblers	1232	94	.00	.08	66.8	(0.0, 2557.1)
8795	Glaziers	601	43	.00	.03	57.8	(0.0, 5082.9)
9311	Hoist Operators, N.E.C.	1714	121	2.00	.10	55.4	(0.0, 1860.0)

TABLE 3.7.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Community, Business and Personal Service

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8781	Carpenters & Related	11810	833	1.00	.65	55.3	(0.7, 352.7)
8785	Painters, Paperhangers & Related	5200	359	.00	.27	52.6	(0.0, 673.5)
7518	Labouring Forestry & Logging	30	2	.00	.00[4]	48.3	(0.0,99913.8)
7519	Forestry & Logging, N.E.C.	30	2	.00	.00	48.3	(0.0,99913.8)
8131	Metal Smelting, Converting & Refining Furnacemen	30	2	.00	.00	48.3	(0.0,99913.8)
1130	General Managers & Senior Officials	21667	80	1.00	.00	46.2	(2.4, 219.0)
8584	Industrial, Farm & Construction Machinery Mechanics & Repairmen	6701	435	.00	.30	45.3	(0.0, 530.7)
8581	Motor Vehicle Mechanics & Repairmen	8355	535	.00	.37	43.9	(0.0, 440.5)
*3134	Nursing Assistants	80655	5111	1.00	3.45	42.8	(13.1, 104.1)
8335	Welders & Flame Cutters	17610	1107	3.00	.74	42.0	(0.9, 245.2)
*6129	Food & Beverage Preparation & Related Service, N.E.C.	75847	4712	1.00	3.09	40.8	(11.4, 103.9)
7182	Farm Workers	5229	321	.00	.21	39.6	(0.0, 648.8)
8331	Forgers	240	14	.00	.01	35.1	(0.0,12567.8)
9318	Labourers, Material Handling	2524	138	.00	.08	30.0	(0.0, 1248.1)
8782	Brick & Stone Masons & Tile Setters	752	41	.00	.02	29.8	(0.0, 4036.7)

TABLE 3.7.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations
Community, Business and Personal Service

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
*6198	Labourers, Services	184720	9899	.00	5.29	28.6	(11.7, 59.0)
9173	Taxi Drivers & Chauffeurs	4027	207	1.00	.10	25.9	(0.0, 791.7)
3152	Dietitians & Nutritionists	4898	249	.00	.12[4]	25.2	(0.0, 658.6)
2511	Ministers of Religion	42821	5	1.00	.00	23.4	(1.2, 110.8)
8213	Bakers, Confectionery Makers & Related	8985	431	.00	.20[4]	21.9	(0.0, 375.6)
*6191	Janitors, Charworkers & Cleaners	343266	15832	11.00	6.85	20.0	(9.3, 37.7)
6149	Personal Service, N.E.C.	68665	3089	.00	1.29[4]	18.8	(1.7, 75.9)
2169	Other in Architecture & Engineering, N.E.C.	3366	151	1.00	.06	18.7	(0.0, 924.6)
8151	Furnace & Kiln Men: Clay, Glass & Stone	180	8	.00	.00[4]	18.3	(0.0,16652.3)
8548	Labourers: Fabricating, Assembling & Repairing, Wood Products	90	4	.00	.00	18.3	(0.0,33304.6)
2791	Vocational School Teachers	54962	103	1.00	.00	18.2	(0.9, 86.3)
*6121	Chefs & Cooks	262941	10439	.00	3.66	13.9	(4.5, 33.0)
1171	Accountants, Auditors & Other Financial Officers	77772	86	1.00	.00	12.9	(0.7, 61.0)

TABLE 3.7.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Community, Business and Personal Service

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8393	Filers, Grinders, Buffers, Cleaners & Polishers, N.E.C.	1143	43	.00	<u>.01</u>	12.2	(0.0, 2638.9)

* Occupations with an upper Confidence Limit not exceeding three times the estimated rate and affording rates which are based on adequate numbers.

[1] 1979-1984.

[2] The overall fatal claim rate for Community, Business and Personal Service is 12.1 $10^{-6}y^{-1}$.

[3] Rates and Poisson Confidence Intervals are based on the underlined number of fatal claims (either actual or predicted).

[4] These occupations were not included in the correlation because of non-fatal claims are considered to be disproportionately high. However, in the absence of actual fatal claims, the predicted value is given on the basis of the regression equation; this value should be regarded as relatively less reliable.

TABLE 3.8.1a

Distribution of Fatal Risk for Occupations in Public Administration

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF OCCUPATIONS[2]	PERCENTAGE OF OCCUPATIONS
Occupations with Risk at least twenty times the Industry Average	27	9.0
Occupations with Risk at least ten times the Industry Average	38	12.7
Occupations with Risk at least five times the Industry Average	49	16.4
Occupations with Risk at least two times the Industry Average	59	19.1
Total Number of Occupations with Risk above the Industry Average	71	23.7
Total Number of Occupations with Risk at or below the Industry Average	228	76.3

[1]Industry Average Fatal Risk = 49.2 $10^{-6}{}_{y}{}^{-1}$

[2]Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.8.1b

Distribution of Fatal Risk for Workers in Public Administration

RATIO OF OCCUPATION RISK TO INDUSTRY AVERAGE[1]	NUMBER OF WORKERS[2]	PERCENTAGE OF WORKERS
Workers in Occupations with Risk at least twenty times the Industry Average	31522	1.9
Workers in Occupations with Risk at least ten times the Industry Average	62949	3.8
Workers in Occupations with Risk at least five times the Industry Average	89572	5.4
Workers in Occupations with Risk at least two times the Industry Average	139337	8.4
Total Number of Workers in Occupations with Risk above the Industry Average	341511	20.6
Total Number of Workers in Occupations with Risk at or below the Industry Average	1320110	79.4

[1] Industry Average Fatal Risk = $49.2\ 10^{-6} y^{-1}$

[2] Based on the Total Number of Occupations with at least 1 non-fatal or fatal Workers' Compensation Board claim.

TABLE 3.8.2

Above Average Fatal Claim Rates for Non-Radiological Occupations

Public Administration

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8215	Slaughterers, Meat Cutters, Canners, Curers & Packers	30	26	.00	.68[4]	22783.3	(353.2, 140545.6)
8529	Other Fabricating & Assembling, Metal Products, N.E.C.	30	26	.00	.68	22783.3	(353.2, 140545.6)
*9173	Taxi Drivers & Chauffeurs	2374	2030	1.00	52.37	22060.2	(17296.4, 27770.1)
*3134	Nursing Assistants	932	676	.00	13.85	14860.9	(8954.8, 23292.4)
3339	Performing & Audio-Visual Arts, N.E.C.	90	3	1.00	.00	11111.1	(569.4, 52731.5)
*6129	Food & Beverage Preparation & Related Service, N.E.C.	1081	685	.00	11.62	10746.0	(6137.4, 17556.2)
*9318	Labourers, Material Handling	4416	2356	.00	31.40	7110.9	(5159.7, 9577.4)
*9315	Materials Handling Equipment Operators, N.E.C.	992	513	.00	6.55	6598.2	(3002.7, 12666.5)
6162	Launderers & Dry Cleaners	90	41	.00	.44	4867.1	(0.0, 42263.7)
*9171	Bus Drivers	1863	776	1.00	7.31	3925.8	(1877.2, 7274.1)
6130	Supervisors: Lodging & Other Accommodation	60	23	.00	.19	3216.3	(0.0, 55932.4)
9319	Materials Handlers & Related, N.E.C.	300	96	.00	.63	2085.1	(24.3, 13772.1)
2119	Physical Sciences, N.E.C.	482	7	1.00	.00	2074.7	(106.3, 9846.1)

TABLE 3.8.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Public Administration

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
9111	Pilots, Navigators & Flight Engineers	482	9	1.00	.00	2074.7	(106.3, 9846.1)
*7182	Farm Workers	1533	482	.00	3.06	1998.9	(553.2, 5115.1)
*4173	Mail & Postal Clerks	7211	2198	.00	13.38	1855.4	(1106.9, 2931.1)
*8733	Construction Electricians & Repairmen	1743	528	1.00	3.19	1828.0	(525.5, 4604.7)
8715	Railway Sectionmen & Trackmen	30	9	.00	.05	1785.9	(0.0,103105.8)
8335	Welders & Flame Cutters	1052	309	1.00	1.79	1697.6	(260.8, 5685.7)
8793	Structural Metal Erectors	150	41	.00	.21	1428.3	(0.0, 22618.4)
4172	Mail Carriers	30	8	.00	.04[4]	1346.2	(0.0,102467.8)
9311	Hoist Operators, N.E.C.	360	88	.00	.39	1092.5	(0.0, 10321.4)
8785	Painters, Paperhangers & Related	1263	303	.00	1.32	1044.4	(97.9, 4161.2)
9155	Deck Crew, Ship	992	75	1.00	.06	1008.1	(51.7, 4784.1)
8783	Concrete Finishers & Related	571	121	.00	.44	775.4	(0.0, 6661.5)
*6198	Labourers, Services	3905	822	.00	2.98	763.1	(206.7, 1978.8)
*9175	Truck Drivers	17970	3749	2.00	13.42	746.9	(445.9, 1178.9)
7511	Forestry Conservationists	1351	134	1.00	.17	740.2	(37.9, 3512.8)
6149	Personal Service, N.E.C.	1772	359	.00	1.23[4]	696.1	(56.7, 2885.7)
7513	Timber Cutters & Related	752	152	3.00	.52	692.3	(3.3, 5243.4)
8313	Machinists & Machine Tool Setters	1111	223	.00	.76	680.8	(15.9, 3916.0)

TABLE 3.8.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Public Administration

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8730	Foremen: Electrical Power, Lighting & Wire Communications, Erecting, Installing & Repairing	1472	16	1.00	.00	679.3	(34.8, 3224.1)
8334	Metalworking Machine Operators, N.E.C.	30	6	.00	.02	674.9	(0.0, 101186.1)
2315	Psychologists	2374	463	.00	1.51[4]	635.3	(75.4, 2338.7)
7519	Forestry & Logging, N.E.C.	119	21	.00	.06	499.8	(0.0, 26153.5)
8599	Other Product Fabricating, Assembling & Repairing, N.E.C.	331	56	.00	.15[4]	451.7	(0.0, 9914.8)
6121	Chefs & Cooks	4837	805	.00	2.10	434.2	(81.9, 1332.9)
8584	Industrial, Farm & Construction Machinery Mechanics & Repairmen	3155	520	1.00	1.34	424.2	(40.9, 1675.8)
8333	Sheet Metal Workers	300	49	.00	.12	415.1	(0.0, 10752.4)
9313	Longshoremen, Stevedores & Freight Handlers	781	118	.00	.27	344.3	(0.0, 4484.3)
2711	University Teachers	60	9	.00	.02	338.4	(0.0, 50593.1)
8798	Labourers, Other Construction Trades	3155	465	.00	1.02	324.4	(17.4, 1514.5)
5145	Service Station Attendants	90	13	.00	.03	309.1	(0.0, 33942.6)
8711	Excavators, Graders & Related	6821	421	2.00	.27	293.2	(52.1, 923.3)
8791	Pipefitters, Plumbers & Related	3035	421	2.00	.85	280.5	(9.2, 1482.8)
3375	Attendants, Sport & Recreation	4058	534	1.00	1.00	247.1	(12.6, 1169.5)

TABLE 3.8.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Public Administration

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
8581	Motor Vehicle Mechanics & Repairmen	8235	1041	.00	1.85	224.4	(36.0, 737.4)
4170	Supervisors: Reception, Mail & Message Distribution	1413	172	.00	.29[4]	205.0	(0.0, 2504.2)
8781	Carpenters & Related	6431	737	1.00	1.14	177.3	(12.3, 773.1)
9317	Packaging, N.E.C.	482	53	.00	.08[4]	160.6	(0.0, 6535.9)
*6191	Janitors, Charworkers & Cleaners	29389	3149	2.00	4.44	150.9	(55.3, 332.0)
8179	Chemicals, Petroleum, Rubber, Plastic & Related Materials Processors, N.E.C.	150	15	.00	.02	127.9	(0.0, 20237.2)
8782	Brick & Stone Masons & Tile Setters	661	61	1.00	.07	105.5	(0.0, 4737.2)
8784	Plasterers & Related	240	22	.00	.02	103.8	(0.0, 12648.3)
3152	Dietitians & Nutritionists	451	41	.00	.05[4]	101.7	(0.0, 6858.5)
7518	Labourers, Forestry & Logging	2313	210	.00	.23[4]	101.4	(0.0, 1482.7)
*6111	Fire Fighters	55712	4768	13.00	4.90	88.0	(34.2, 186.4)
7715	Blasting	60	5	.00	.00[4]	82.6	(0.0, 49956.9)
8787	Roofers, Waterproofers & Related	210	17	.00	.02	77.0	(0.0, 14455.2)
*6112	Policemen & Detectives, Government	121885	9737	20.00	9.09	74.6	(39.0, 129.8)

TABLE 3.8.2 (cont'd.)

Above Average Fatal Claim Rates for Non-Radiological Occupations

Public Administration

SOC CODE	OCCUPATION	NUMBER OF EXPERIENCED PAID WORKERS (SIX YEARS)	NUMBER OF CLAIMS (SIX YEARS)[1]			FATAL CLAIM RATE[2] $10^{-6}y^{-1}$	
			NON-FATAL	FATAL ACTUAL	FATAL PREDICTED	RATE[3]	(90% CONFIDENCE LIMITS)
2143	Civil Engineers	14724	91	1.00	.00	67.9	(3.5, 322.3)
8585	Business Machine Mechanics	691	53	.00	.05[4]	67.7	(0.0, 4476.4)
8718	Excavating, Grading & Paving Labourers	4837	370	.00	.33	67.2	(0.0, 746.4)
8735	Wire Communications & Related Equipment Installers & Repairers	1111	82	.00	.07	61.7	(0.0, 2818.5)
8713	Pavers, Surfacers & Related	630	46	.00	.04[4]	60.1	(0.0, 4879.4)
9531	Power Station Operators	482	35	.00	.03[4]	59.3	(0.0, 6337.8)
8149	Metal Processing & Related, N.E.C.	180	13	.00	.01	58.6	(0.0, 16757.1)
5193	Driver - Salesman	119	8	.00	.01	49.3	(0.0, 25346.9)

*Occupations with an upper Confidence Limit not exceeding three times the estimated rate and affording rates which are based on adequate numbers.

[1]1979-1984.

[2]The overall fatal claim rate for Public Administration is 49.2 $10^{-6}y^{-1}$.

[3]Rates and Poisson Confidence Intervals are based on the underlined number of fatal claims (either actual or predicted).

[4]These occupations were not included in the correlation because the number of non-fatal claims are considered to be disproportionately high. However, in the absence of actual fatal claims, the predicted value is given on the basis of the regression equation; this value should be regarded as relatively less reliable.

Appendix A

A Detailed Description of the Merging of the Data Sets

TABLE A-1

Coding differences in the Statistics Canada and the WCB data sets for industry and occupation.

	Statistics Canada	W.C.B.
Industry	000	BLANK, 000
	001	001, 003, .015, 017, 019
	295	295, 296
	323	323, 325
Occupation	0100	BLANK, 0000
	3131	3131, 3133
	5135	5135, 5137
	6130	6130, 6131
	7182	7182, 7199
	9929	9919

TABLE A-2

Factor[a] used to approximate population of experienced paid workers by year.

1979	.95677
1980	.97446
1981	1.00000
1982	1.00986
1983	1.02375
1984	1.04525

[a]The ratio of the total labour force for each year to the total labour force in 1981 (Statistics Canada, 1984; Statistics Canada, 1985).

In analyzing the distribution of fatal and non-fatal risk in different industries, it was necessary to use two different data sets: one from Statistics Canada which supplied counts of the number of experienced paid workers in each occupation by industry in Ontario based on the 1981 Census of Canada, and the other from the Workers' Compensation Board of Ontario (WCB) which supplied information on the compensation claims from 1979 to 1984 in a case file format (approximately 955,000 cases). Because of the large size and the different format of the WCB data, several preliminary steps had to be taken before the two data sets could be combined.

This preliminary phase of the analysis involved first, the sorting of the 955,000 cases in the WCB data set by year, and by detailed three-digit industry and four-digit occupation. Following this, counts were obtained of the number of fatal and non-fatal claims in each occupation by industry for each year. This new "counts" data set was split into six separate files, one for each year, which were then in a comparable format to that of the Statistics Canada data.

Once the WCB and the Statistics Canada data sets were in the same format, corrections had to be made because of minor differences in the industry and occupation coding schemes used (see Table A-1). Both used the 1970 Standard Industry Classification scheme and the 1971 Standard Occupation Classification scheme, but Statistics Canada combined a few categories at the 4-digit level of detail. The WCB data were therefore grouped to be compatible with the Statistics Canada data, and the counts were adjusted accordingly.

The final preliminary step before the data sets could be combined involved the adjustment of the Statistics Canada 1981 counts of experienced workers to create an estimate for each of the other years. This was done by multiplying the counts by the ratio of the labour force size for each year to the labour force size in 1981 (see Table A-2).

The combined Statistics Canada and WCB data sets were then available for each year and resulted in six data sets, which had population and fatal and non-fatal claim counts at the detailed three-digit level for industry and at the four-digit level for occupation.

Throughout the analyses, these six data sets were used, taking into account the level of detail required in the classification of the industries and occupations. When summary statistics were required for the six-year period, the analyses were carried out on combined data sets which included only the relevant data from each year at the level of detail required.

Appendix B

Correlation Analysis

TABLE B-1

Correlations and Regression Coefficients of Ln Fatal Claim Rates Regressed on Ln Non-Fatal Claim Rates Excluding Occupations Involving Radiological Risk and Various Combinations of Occupations Found to Have Relatively High or Low Fatal Claim Rates, Unweighted and Weighted by Population for 3-Digit Occupation and for Industry Division.

Total Number of Occupations Excluded	Occupations With Disproportionate Fatal Claim Rates	Occupations With Disproportionate Fatal Claim Rates	Unweighted					Weighted by Population				
			Correlation	a	SE a	b	SE b	Correlation	a	SE a	b	SE b(10^{-4})
OCCUPATION:												
16	7	9	.8237	-19.97	1.97	2.20	.20	.7170	-11.73	.003	1.41	3.14
(20.5%)	6	10	.8439	-22.08	1.97	2.39	.20	.7516	-14.03	.003	1.63	3.31
	5	11	.8385	-22.64	2.05	2.44	.20	.7501	-14.11	.003	1.63	3.34
18	9	9	.8298	-18.38	1.84	2.06	.18	.7235	-11.16	.003	1.36	2.99
(23.1%)	8	10	.8507	-20.59	1.86	2.26	.18	.7616	-13.07	.003	1.54	3.06
	7	11	.8477	-21.29	1.92	2.32	.19	.7567	-13.60	.003	1.59	3.19
19	10	9	.8334	-17.46	1.76	1.97	.17	.7360	-10.12	.003	1.26	2.69
(24.4%)	9	10	.8541	-19.74	1.79	2.18	.18	.7626	-12.97	.003	1.53	3.03
	8	11	.8504	-20.51	1.87	2.25	.18	.7616	-13.06	.003	1.54	3.06
20	11	9	.8361	-16.43	1.68	1.88	.17	.7390	- 9.86	.003	1.24	2.62
(25.6%)	10	10	.8575	-18.79	1.71	2.10	.17	.7738	-11.80	.003	1.42	2.74
	9	11	.8339	-19.66	1.80	2.17	.18	.7625	-12.96	.003	1.53	3.03
21	12	9	.8336	-15.25	1.62	1.77	.16	.7399	- 9.57	.003	1.21	2.56
(26.9%)	11	10	.8601	-17.74	1.64	2.00	.16	.7765	-11.50	.003	1.40	2.67
	10	11	.8576	-18.72	1.72	2.09	.17	.7739	-11.80	.003	1.42	2.75
22	13	9	.8214	-13.86	1.60	1.64	.16	.7367	- 9.08	.003	1.17	2.49
(28.2%)	12	10	.8576	-16.54	1.59	1.89	.15	.7770	-11.20	.003	1.37	2.61
	11	11	.8603	-17.67	1.64	1.99	.16	.7765	-11.51	.003	1.40	2.66
INDUSTRY:												
0	0	0	.9352	-22.59	4.16	2.52	.39	.9115	-15.29	.002	1.80	2.00
21	11	10	.9321	-24.34	4.56	2.66	.42	.8959	-15.80	.002	1.83	2.00

TABLE B-2

Occupations with Relatively High Fatal Claims which were Excluded from the Correlation Analyses

	Occupation*	Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(1)	7311 Captains & Officers, Fishing Vessels	30	1.00	1.00
(2)	9111 Pilots, Navigators & Flight Engineers	14423	18.00	85.00
(3)	2511 Ministers of Religion	43421	1.00	7.00
(4)	2151 Metallurgical Engineers	4986	1.00	16.00
(5)	8118 Labourers, Mineral Ore Treating	5918	6.00	184.00
(6)	8250 Foremen, Pulp & Papermaking	8743	2.00	62.00
(7)	2119 Physical Sciences, N.E.C.	2797	2.00	62.00
(8)	7516 Log Inspectors, Graders & Scalers	2524	1.00	31.00
(9)	7313 Fishermen, Net, Trap & Line	661	1.00	34.00
(10)	5141 Street Vendors & Door-to-door Salesmen	20103	1.00	36.00
(11)	1130 General Managers & Senior Officers	112118	11.00	397.00
(12)	5177 Business Services Salesmen	13672	1.00	39.00
(13)	1147 Managers, Transport & Communications	32636	1.00	41.00
(14)	5133 Commercial Travellers	234063	9.00	446.00
(15)	1136 Personel & Related Managers	44926	1.00	50.00
(16)	8586 Inspectors, Testers, Graders, Samplers, Equipment Repair, Except Electrical	7091	1.00	52.00
(17)	2797 Instructors & Training Officers, N.E.C.	29599	2.00	104.00
(18)	7197 Farm Machinery & Custom Operators	3666	1.00	53.00
(19)	2339 Others in Social Work & Related, N.E.C.	15355	1.00	56.00
(20)	1137 Sales & Advertising Managers	181594	2.00	123.00
(21)	8236 Inspectors, Testers, Wood Processing, except Pulp & Papermaking	4239	1.00	62.00

*ranked in descending order of disproportion.

TABLE B-2

Occupations with Relatively High Fatal Claims which were Excluded from the Correlation Analyses

	Occupation*	Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(22) 1142	Service Managers	25964	1.00	64.00
(23) 8113	Mixers, Separators, Filterers & Related, Mineral Ores	2495	1.00	66.00
(24) 1175	Purchasing Officers & Buyers, Except Wholesale & Retail Trade	43361	1.00	67.00
(25) 8230	Foremen, Wood Processing, Except Pulp & Papermaking	5139	1.00	78.00
(26) 2155	Aeronautical Engineers	6101	1.00	79.00
(27) 3339	Performing & Audio-Visual Arts, N.E.C.	8865	1.00	83.00
(28) 9151	Deck Officers	5347	1.00	91.00
(29) 9130	Foremen, Rail Transport Operating	9314	2.00	183.00
(30) 8153	Separators, Grinders, Crushers & Mixers: Clay, Glass & Stone	5857	4.00	367.00
(31) 1145	Managers, Construction Operation	42610	3.00	276.00
(32) 2147	Mechanical Engineers	59348	3.00	278.00
(33) 2144	Electrical Engineers	76057	2.00	187.00
(34) 8260	Foremen, Textile Processing	7782	1.00	95.00
(35) 8146	Inspectors, Testers, Graders, Samplers, Metal Processing	13671	2.00	206.00
(36) 7710	Foremen: Mining & Quarrying Including Oil & Gas Field	15806	7.00	753.00
(37) 8165	Distillers, Sublimers & Carbonizers, Chemicals & Related Materials	4568	1.00	110.00
(38) 2143	Civil Engineers	63437	2.00	231.00
(39) 4157	Weighers	9231	2.00	233.00

TABLE B-2

Occupations with Relatively High Fatal Claims which were Excluded from the Correlation Analyses

	Occupation*	Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(40) 8786	Insulators, Construction	15413	6.00	711.00
(41) 9170	Foremen, Motor Transport Operating	26296	5.00	597.00
(42) 9131	Locomotive Engineers & Foremen	16345	3.00	359.00
(43) 5179	Sales & Services, N.E.C.	6641	1.00	123.00
(44) 2791	Vocational Teachers	6914	1.00	126.00
(45) 2159	Architects & Engineers, N.E.C.	27496	1.00	130.00
(46) 7717	Mining & Quarrying: Cutting, Handling & Logging	29297	16.00	2182.00
(47) 7511	Forestry Conservationists	7180	1.00	138.00
(48) 9153	Engineering Officers, Ship	2734	1.00	139.00
(49) 8730	Foremen: Electrical Power, Lighting & Wire Communications, Erecting, Installing & Repairing	43512	2.00	281.00
(50) 8731	Electrical Power Linemen & Related	27583	11.00	1578.00
(51) 8711	Excavators, Graders & Related	67432	12.00	1767.00
(52) 1149	Other Managers & Administrators, N.E.C.	18775	7.00	1055.00
(53) 8130	Foremen, Metal Processing & Related	29358	3.00	453.00
(54) 8160	Foremen: Chemicals, Petroleum, Rubber & Plastics Materials Processing	16947	2.00	306.00
(55) 9133	Conductors & Brakemen, Railway	19172	7.00	1119.00
(56) 7517	Log Hoisters, Sorters & Movers	11659	8.00	1288.00
(57) 9179	Motor Transport Operators, N.E.C.	38103	1.00	166.00
(58) 8211	Flour & Grain Millers	10115	3.00	501.00
(59) 1171	Accountants, Auditors, & Other Financial Officers	253267	2.00	338.00

TABLE B-2

Occupations with Relatively High Fatal Claims which were Excluded from the Correlation Analyses

Occupation*		Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(60) 7718	Labouring & Other Elemental Work, Mining/Quarrying, Oil/Gas	18210	7.00	1326.00
(61) 9155	Deck Crew, Ship	6191	3.00	576.00
(62) 9135	Rail Transport Operating Support	13371	2.00	384.00

TABLE B3

Occupations with Relatively Low Non-Fatal Claims which were Excluded from the Correlation Analyses

		Occupation*	Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(1)	8215	Slaughterers, Meat Cutters, Canners, Curers and Packers	83390	.00	8097.00
(2)	8515	Aircraft Assemblers, N.E.C.	22386	.00	1786.00
(3)	8151	Furnace & Kiln Men: Clay, Glass & Stone	5047	.00	392.00
(4)	8261	Textile Fibre Preparers	2673	.00	203.00
(5)	8525	Business Machine Assemblers, N.E.C.	4567	.00	338.00
(6)	8161	Mixers & Blenders, Chemicals	23708	.00	1637.00
(7)	8225	Sugar Processors	1053	.00	71.00
(8)	9519	Printing & Related, N.E.C.	31641	.00	2054.00
(9)	8298	Labourers, Other Processing	1233	.00	79.00
(10)	8227	Beverage Processors	9164	.00	581.00
(11)	8359	Wood Machining, N.E.C.	1232	.00	75.00
(12)	8739	Power,Lighting & Wire Communications, Installing & Repairing, N.E.C.	8294	.00	479.00
(13)	7518	Labourers, Forestry & Logging	13762	.00	784.00
(14)	8271	Knitters	9344	.00	529.00
(15)	9113	Air Transport Operating Support	10517	.00	590.00
(16)	9512	Printing Press Operators	49070	.00	2744.00
(17)	9317	Packaging, N.E.C.	224477	.00	12150.00
(18)	8278	Labourers, Textile Processing	11268	.00	588.00
(19)	7715	Blasting	2493	.00	130.00
(20)	4159	Material Recording, Scheduling & Distributing	23829	.00	1241.00

*ranked in descending order of disproportion using non-fatal rates.

TABLE B3

Occupations with Relatively Low Non-Fatal Claims which were Excluded from the Correlation Analyses

	Occupation*	Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(21) 8562	Sewing Machine Operators, Textile & Similar Materials	32843	.00	1682.00
(22) 3152	Dietitians & Nutritionists	5679	.00	290.00
(23) 6135	Sleeping Car & Baggage Porters & Bellmen	7003	.00	357.00
(24) 8258	Labourers, Pulp & Papermaking	18240	.00	921.00
(25) 8541	Cabinet & Wood Furniture Makers	50423	.00	2524.00
(26) 8156	Inspectors, Testers, Graders, Samplers, Clay, Glass & Stone Processing	4929	.00	243.00
(27) 6149	Personal Service, N.E.C.	71307	.00	3511.00
(28) 8239	Wood Processors, Except Pulp, N.E.C.	5108	.00	251.00
(29) 8593	Paper Product Fabricators	5285	.00	2220.00
(30) 8371	Cutters & Shapers, Clay, Glass & Stone	8142	.00	386.00
(31) 8293	Tobacco Processors	4598	.00	209.00
(32) 8213	Bakers, Confectionary Makers & Related	69026	.00	3109.00
(33) 6145	Hostesses & Stewards, Except Food	14876	.00	668.00
(34) 8267	Textile Weavers	8863	.00	394.00
(35) 8143	Platers, Meat-Sprayers & Related	12740	.00	557.00
(36) 8263	Textile Spinners & Twisters	8114	.00	351.00
(37) 8295	Hide & Pelt Processors	5740	.00	248.00
(38) 8273	Textile Bleachers & Dyers	3696	.00	155.00
(39) 8551	Patternmakers, Markers & Cutters: Textile, Leather & Fur Products	26956	.00	1121.00
(40) 8569	Assembling & Repairing: Rubber & Related Products, N.E.C.	36210	.00	1491.00

TABLE B3

Occupations with Relatively Low Non-Fatal Claims which were Excluded from the Correlation Analyses

	Occupation*	Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(41) 8133	Metal Heat Treaters	5618	.00	230.00
(42) 8223	Milk Processors	10187	.00	420.00
(43) 8231	Sawmill Sawyers & Related	7933	.00	298.00
(44) 8575	Cutters & Finishers: Rubber, Plastic & Related Products	5169	.00	191.00
(45) 8357	Wood Sanders	3756	.00	137.00
(46) 9159	Water Transport Operators, N.E.C.	5350	.00	191.00
(47) 8339	Metal Shapers, Except Machining, N.E.C.	11146	.00	377.00
(48) 8167	Roasters, Cookers & Dryers, Chemicals & Related Materials	2793	.00	93.00
(49) 8275	Textile Finishers & Calenderers	5287	.00	176.00
(50) 2315	Psychologists	19774	.00	632.00
(51) 9157	Engine & Boiler-room Crew, Ship	1831	.00	58.00
(52) 8111	Crushers & Grinders, Mineral Ores	6671	.00	209.00
(53) 8265	Textile Winders & Reelers	7873	.00	242.00
(54) 9191	Subway & Street Railway Operators	3846	.00	118.00
(55) 8221	Fruit & Vegetable Canners, Preservers & Packers	14094	.00	422.00
(56) 8119	Mineral Ore Treaters, N.E.C.	1020	.00	30.00
(57) 8319	Metal Machining, N.E.C.	5829	.00	169.00
(58) 7319	Fishing, Hunting & Trapping & Related, N.E.C.	450	.00	13.00
(59) 8150	Foremen: Clay, Glass & Stone Processing, Forming & Related	6610	.00	187.00

TABLE B3

Occupations with Relatively Low Non-Fatal Claims which were Excluded from the Correlation Analyses

	Occupation*	Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(60) 8399	Other Machining & Related, N.E.C.	4356	.00	120.00
(61) 8570	Foremen: Fabricating, Assembling & Repairing: Rubber, Plastic & Related Productions	14966	.00	411.00
(62) 2131	Agriculturalists & Related Scientists	12230	.00	330.00
(63) 6165	Pressing	22295	.00	590.00
(64) 8253	Papermakers & Finishers	20372	.00	538.00
(65) 6199	Other Service, N.E.C.	24040	.00	616.00
(66) 8599	Other Product Fabricating, Assembling & Repairing, N.E.C.	58151	.00	1463.00
(67) 8573	Moulders: Rubber, Plastic & Related Products	23168	.00	582.00
(68) 8537	Radio & Television Service Repairmen	19292	.00	467.00
(69) 2793	Post-Secondary School Teachers, N.E.C.	9225	.00	218.00
(70) 8336	Inspectors, Testers, Graders, Samplers, Metal Shaping, Except Machining	8141	.00	192.00
(71) 3131	Nurses, Graduate, Except Supervisors	386777	.00	8801.00
(72) 6193	Elevator Operators	1502	.00	34.00
(73) 7315	Hunters, Trappers & Related	90	.00	2.00
(74) 8226	Inspectors, Testers, Graders, Samplers, Food, Beverage & Related Processing	15356	.00	336.00
(75) 4151	Production Clerks	60399	.00	1292.00
(76) 6133	Chambermaids & Housemen	53790	.00	1124.00
(77) 8141	Metal Extruders & Drawers	14095	.00	286.00
(78) 8173	Coaters & Calenderers, Chemical & & Related Materials	3305	.00	670.00

TABLE B3

Occupations with Relatively Low Non-Fatal Claims which were Excluded from the Correlation Analyses

Occupation*		Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(79) 8585	Business Machine Mechanics	28758	.00	582.00
(80) 8373	Abraders & Polishers: Clay, Glass & Stone, N.E.C.	6431	.00	130.00
(81) 8210	Foremen: Food & Beverage Processing	25272	.00	506.00
(82) 3115	Veterinarians	1261	.00	25.00
(83) 8566	Inspectors, Testers, Graders, Samplers, Assembling & Repairing Textile, Fur & Leather Products	7602	.00	148.00
(84) 9514	Printing Engravers, Except Photoengravers	9406	.00	183.00
(85) 8568	Labourers: Assembling & Repairing Textile, Fur & Leather Products	6069	.00	1159.00
(86) 3139	Nursing, Therapy & Related Assisting, N.E.C.	36842	.00	693.00
(87) 9199	Other Transport & Equipment Operators, N.E.C.	5047	.00	94.00
(88) 8251	Cellulose Pulp Preparers	6400	.00	118.00
(89) 8395	Patternmakers & Mould Makers, N.E.C.	9884	.00	178.00
(90) 8534	Electronic Equipment Assemblers	62112	.00	1118.00
(91) 8351	Wooden Patternmakers	1472	.00	26.00
(92) 6169	Apparel & Furnishing Service, N.E.C.	18361	.00	324.00
(93) 8350	Foremen, Wood Machining	1653	.00	28.00
(94) 5171	Insurance Salesmen & Agents	179	.00	3.00
(95) 8587	Watch & Clock Repairmen	4899	.00	82.00
(96) 4170	Supervisors: Material Recording, Scheduling & Distributing	22357	.00	374.00
(97) 6123	Bartenders	60430	.00	1003.00
(98) 8355	Planers, Turners, Shapers & Related Wood Machinists	8143	.00	1314.00

TABLE B3

Occupations with Relatively Low Non-Fatal Claims which were Excluded from the Correlation Analyses

Occupation*	Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(99) 8233 Plywood makers & Related	4897	.00	77.00
(100) 9139 Rail Transport Operators, N.E.C.	962	.00	15.00
(101) 8299 Other Processing, N.E.C.	1351	.00	21.00
(102) 8276 Inspectors, Testers, Graders, Samplers, Textile Processing	9376	.00	145.00
(103) 8310 Foremen, Metal Machining	23889	.00	361.00
(104) 7510 Foremen, Forestry & Logging	5798	.00	86.00
(105) 8796 Inspectors, Testers, Graders, Samplers, Construction, Except Electrical	11599	.00	167.00
(106) 9513 Stereotypers & Electrotypers	210	.00	3.00
(107) 6113 Policemen & Investigators, Private	9256	.00	132.00
(108) 8561 Shoemakers & Repairers	41980	.00	580.00
(109) 8176 Inspectors, Testers, Graders, Samplers, Chemical, Petroleum, Rubber, Plastic & Related Materials	11539	.00	159.00
(110) 6120 Supervisors: Food & Beverage Preparation & Related Services	135169	.00	1859.00
(111) 8536 Inspectors, Testers, Graders, Samplers, Installing & Repairing Electrical & Electronic Equipment	33868	.00	452.00
(112) 8171 Crushers & Grinders, Chemicals & Related Materials	2403	.00	308.00
(113) 8396 Inspectors, Testers, Graders, Samplers, Machining, N.E.C.	721	.00	9.00
(114) 9518 Labourers, Printing & Related	8774	.00	1092.00
(115) 8538 Labourers, Assembling, Installing & Repairing Electrical, Electronic & Related Equipment	7240	.00	898.00

TABLE B3

Occupations with Relatively Low Non-Fatal Claims which were Excluded from the Correlation Analyses

Occupation*	Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(116) 2399 Others in Social Sciences & Related Fields, N.E.C.	16978	.00	207.00
(117) 4172 Mail Carriers	54030	.00	6501.00
(118) 8163 Filterers, Strainers & Separaters, Chemicals & Related Materials	1833	.00	22.00
(119) 4141 Office Machine Operators	28187	.00	338.00
(120) 8391 Engravers, Etchers & Related Workers	3305	.00	39.00
(121) 8550 Foremen: Assembling & Repairing Textile, Fur & Leather Products	14454	.00	166.00
(122) 9510 Foremen: Printing & Related	19713	.00	266.00
(123) 8713 Pavers, Surfacers & Related	15535	.00	178.00
(124) 9530 Foremen: Stationary Engineers & Utilities Equipment Operators & Related	17850	.00	202.00
(125) 8316 Inspectors, Testers, Graders, Samplers, Metal Machining	10036	.00	113.00
(126) 2739 Other Elementary & Secondary School Teaching, N.E.C.	55623	.00	616.00
(127) 9511 Hoist Operators, N.E.C.	30170	.00	327.00
(128) 2799 Others in Teaching & Related, N.E.C.	23108	.00	244.00
(129) 8546 Inspectors, Testers, Graders, Samplers, Assembling & Repairing, Wood Products	1052	.00	11.00
(130) 8217 Fruit Canners, Curers & Packers	3006	.00	313.00
(131) 3137 Physio & Occupational Therapists	28577	.00	291.00
(132) 8596 Inspectors, Testers, Graders, Samplers, Product Fabricating & Repairing, N.E.C.	7001	.00	69.00
(133) 8530 Foremen: Assembling, Installing & Repairing, Electrical & Related Equipment	29150	.00	285.00

TABLE B3

Occupations with Relatively Low Non-Fatal Claims which were Excluded from the Correlation Analyses

Occupation*	Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(134) 8110 Foremen: Mineral Ore Treating	2164	.00	21.00
(135) 8591 Jewellery & Silverware Fabricators & Repairmen	14423	.00	134.00
(136) 8235 Wood Treating	1953	.00	18.00
(137) 8256 Inspectors, Testers, Graders, Samplers, Pulp & Papermaking	5979	.00	55.00
(138) 8588 Precision Instrument Mechanics	11421	.00	102.00
(139) 6160 Supervisors: Laundry & Dry Cleaning	7211	.00	64.00
(140) 4193 Travel Clerks, Ticket, Station & Freight Agent	57064	.00	501.00
(141) 8553 Tailors & Dressmakers	25003	.00	205.00
(142) 9110 Foremen: Air Transport Operating	2584	.00	21.00
(143) 8296 Inspectors, Testers, Graders, Samplers, Processing, N.E.C.	3364	.00	27.00
(144) 2112 Geologists	8022	.00	63.00
(145) 8115 Melters & Roasters, Mineral Ores	901	.00	7.00
(146) 9531 Power Station Operators	16705	.00	121.00
(147) 3313 Product & Interior Designers	37594	.00	271.00
(148) 8590 Foremen: Product Assembling & Repairing, N.E.C.	20341	.00	142.00
(149) 9557 Motion Picture Projectionists	3305	.00	23.00
(150) 2733 Secondary School Teachers	263603	.00	1738.00
(151) 9591 Photographic Processing	20407	.00	131.00
(152) 8736 Inspectors, Testers, Graders, Samplers Power, Lighting & Wire Communication Erecting, Installing & Repairing	9556	.00	61.00

TABLE B3

Occupations with Relatively Low Non-Fatal Claims which were Excluded from the Correlation Analyses

Occupation*	Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(153) 6139 Lodging & Other Accommodation, N.E.C.	3965	.00	25.00
(154) 5190 Supervisors: Other Sales	5531	.00	34.00
(155) 3333 Dancers & Choreographers	2704	.00	16.00
(156) 3130 Supervisors, Nursing	41770	.00	244.00
(157) 2139 Life Sciences, N.E.C.	2074	.00	12.00
(158) 8557 Milliners, Hat & Cap Makers	1563	.00	9.00
(159) 8527 Precision Instrument Assemblers, N.E.C.	11027	.00	61.00
(160) 9190 Foremen, Other Transport & Related Equipment Operating	2913	.00	16.00
(161) 9551 Radio & Television Broadcasting Equipment Operators	9135	.00	50.00
(162) 2731 Elementary & Kindergarten Teachers	402856	.00	2202.00
(163) 3315 Photographers & Cameramen	15565	.00	85.00
(164) 8376 Inspectors, Testers, Graders, Samplers, Clay, Glass & Stone Machining	2044	.00	11.00
(165) 8535 Electrical & Related Equipment Installers & Repairers, N.E.C.	28456	.00	152.00
(166) 8356 Inspectors, Testers, Graders, Samplers, Wood Machining	391	.00	2.00
(167) 4179 Reception, Information, Mail & Message Distribution, N.E.C.	48919	.00	236.00
(168) 1176 Inspectors, Non-Government	12049	.00	58.00
(169) 2111 Chemists	27891	.00	129.00
(170) 4113 Typists & Clerk-typists	211523	.00	977.00
(171) 4161 Library & File Clerks	105117	.00	478.00

TABLE B3

Occupations with Relatively Low Non-Fatal Claims which were Excluded from the Correlation Analyses

Occupation*	Population (6 years)	Number of Fatal Claims (6 years)	Number of Non-fatal Claims (6 years)
(172) 4175 Telephone Operators	66020	.00	300.00
(173) 3159 Others in Medicine & Health, N.E.C.	27497	.00	124.00
(174) 9519 Painting & Related, N.E.C.	7212	.00	32.00
(175) 5149 Sales: Commodities, N.E.C.	27890	.00	115.00
(176) 2133 Biologists & Related Scientists	11270	.00	46.00
(177) 2153 Mining Engineers	5888	.00	24.00
(178) 8290 Foremen: Other Processing	1503	.00	6.00
(179) 6144 Guides	11479	.00	44.00
(180) 3314 Advertising & Illustrating Artists	41262	.00	158.00
(181) 8370 Foremen: Clay, Glass, Stone & Related Materials	3005	.00	11.00

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